DOCUMENT RESUME

ED 411 934 PS 023 421

AUTHOR	Bloomberg, Laura; Seppanen, Patricia; Stewart, Dan
TITLE	Evaluation of Minnesota's Family Service Collaboratives and Children's Initiative Partners: A Resource Manual.
INSTITUTION	Minnesota Univ., Minneapolis. Center for Applied Research and Educational Improvement.
SPONS AGENCY	Minnesota State Dept. of Education, St. Paul. Div. of Planning and Development.
PUB DATE	1995-03-00
NOTE	120p.
PUB TYPE	Guides - Non-Classroom (055)
EDRS PRICE	MF01/PC05 Plus Postage.
DESCRIPTORS	*Educational Assessment; Elementary Education; *Evaluation Criteria; Evaluation Methods; Evaluation Needs; Family Programs; Institutional Evaluation; Outcomes of Education; Program Effectiveness; *Program Evaluation; School Community Relationship; School Readiness; Workshops
IDENTIFIERS	*Minnesota

ABSTRACT

Minnesota's Family Service Collaboratives and Children's Initiative Partners encourage cooperation between communities and schools to improve the health of babies and children, increase school readiness, provide stable family environments, and promote basic academic skills. To fulfill the evaluation needs of these programs, this resource manual presents an evaluation workshop designed to assist collaborative teams in conceptualizing and specifying their evaluation designs using a common evaluation framework that will allow for both site-specific and cross-site reporting of outcomes. The materials included in this manual introduce a five-step process for specifying an outcome evaluation design: (1) defining and specifying the key elements of the collaborative initiative; (2) specifying evaluation claims about the observable effects of the initiative; (3) specifying the evidence or documentation that may be used to substantiate each claim; (4) creating a map that links key elements and indicators; and (5) specifying an evaluation plan that includes level of evidence for each indicator, instruments and procedures, data analysis and standards of comparison. The manual discusses the role of evaluation consultants in assisting sites to specify their outcome education plans, and includes a form for sites to indicate the types of assistance that would be most helpful to them. Four background articles on potential outcomes and indicators, and a form for evaluating the workshop are appended. (JPB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 411 934

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)
X This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Evaluation of Minnesota's

Family Service Collaboratives

and

Children's Initiative Partners

A Resource Manual

PERMISSION TO REPRODUCE AND
DISSEMINATE THIS MATERIAL
HAS BEEN GRANTED BY
C. Hanson
TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)

March 1995

PS 023121

BEST COPY AVAILABLE

Published March, 1995

This manual was prepared at the Center for Applied Research and Educational Improvement, College of Education, University of Minnesota. Contributors included:

Patricia Seppanen, Project Co-director
Laura Bloomberg, Project Co-director
Dan Stewart, Research Assistant

This five step process for specifying an outcome evaluation is based on the work of RMC Research Corporation. This process is outlined more fully in a publication entitled Making the Case, published by the Office of Educational Research and Improvement, U.S. Department of Education.

Production of this manual was funded in part through an evaluation contract from the Minnesota Department of Planning. Additional copies of this manual may be ordered by contacting:

Laura Bloomberg
Center for Applied Research and Educational Improvement
265 Peik Hall
University of Minnesota
Minneapolis, MN, 55455

(612) 625-0502

Contents

		Page
I.	**Introduction**	**5**
	Purpose of the Evaluation Workshop Evaluation Requirements Guiding Evaluation Questions	
II.	**Developing a Common Language**	**11**
	Overview Key Elements Claims Indicators Mapping Key Elements and Indicators Evaluation Plans	
III.	**Role of Evaluation Consultants**	**32**
	Key Activities Identification of Needs for Technical Assistance in Evaluation	
IV.	**Resource: Literature Review**	**37**
V.	**Resource: Potential Outcomes and Indicators**	
	• Shorr, *A Case for Shifting to Results-Based Accountability*	
	• Thornton, Love, & Meckstroth, *Community-Level Measures for Assessing the Status of Children and Families*	
	• Minnesota's *Kids Can't Wait* report (includes relevant Minnesota Milestones)	***-Insert***
	• the Minnesota Children's Services Report Card -on-line information	***-Insert***
Form for Evaluating Workshop		***-Insert***

INTRODUCTION

Purpose of the Evaluation Workshop

The purpose of this evaluation workshop is to assist collaborative teams in conceptualizing and specifying their evaluation designs using a common evaluation framework that will allow for both site-specific and cross-site reporting of outcomes. Specifically,

- Sites with local evaluators will be able to document their efforts using a common format.

- Children's Initiative Partners will have the opportunity to plan an evaluation design for already specified outcomes and to assure their program elements link to these outcomes.

- All other implementation sites will be given a process for conceptualizing and planning their local evaluations using a common format.

- Members of the Children's Interagency Technical Assistance Team (ChITA) will have an opportunity to use the same evaluation framework to specify a plan for evaluating their efforts.

A one-day workshop is only long enough to *introduce* collaborative teams to a common language and to share resources that will assist them in specifying their evaluation designs. We expect teams that have yet to formulate their outcome evaluation plans will need to continue their work once they return home.

In part three of this manual, we describe how the evaluation consultants may be of assistance to sites as they work on the specification of their outcome evaluation plans. We also include a form for sites to indicate the types of assistance that would be most helpful to them.

Evaluation Requirements

The Family Services and Community-Based Collaboratives were initiated by Governor Arne H. Carlson and the Minnesota Legislature in 1993. Included in this initiative are grants to foster cooperation and collaboration and help communities come together to improve outcomes for Minnesota's children and families. By providing incentives for better coordination of services, Minnesota hopes to increase the number and percentage of babies and children who are healthy, children who come to school ready to learn, families able to provide a healthy and stable environment for their children, and children who excel in basic academic skills.

There are really two major sources of funds to support the implementation of Family Services and Community-Based Collaboratives. Implementation grants are for communities that have developed measurable goals and a comprehensive plan to improve services for children and families. The grant funds must be used to provide direct services to children and families.

Minnesota legislation for the Family Service and Community-Based Collaboratives includes the following language regarding evaluation of these initiatives:

> Collaboratives receiving implementation grants must submit a report to the Children's Cabinet. The report shall describe the progress the collaborative made toward implementing the local plan, how funds received were used, the number and type of clients served, and the types of services provided. The report shall be submitted to the Children's Cabinet by December 31, 1994. . .within two years of the date on which a collaborative receives an implementation grant, a collaborative shall submit a report to the Children's Cabinet describing the extent to which the collaborative achieved the outcomes developed under Minnesota Statutes section 121.8355.

A second major source of funds for collaboratives is through the Minnesota's Children Initiative. Three collaborative sites have been selected to receive funds from the Pew Charitable Trust over a three year period. The Children's Initiative Partners are focusing their initial work on four pivotal outcomes for children ages 0 to 6 and their families: improved child health, adequate child development, reduced barriers to adequate school performance, and adequate family functioning and stability.

Children's Initiative partners are required to provide annual progress reports to the Pew Charitable Trusts (5/15/95, 5/15/96, and 8/15/97). Reports must include a thorough account of what was accomplished by the expenditure of funds, including a description of progress toward achieving the measurable objectives of the grant.

In January of 1995, Minnesota Planning contracted with the University of Minnesota to assist in the design and implementation of an evaluation system for the collaborative initiatives. This 30-month effort is intended to achieve a number of related objectives:

- To design a statewide evaluation system that builds on and augments the site-specific evaluation activities of each local collaborative;
- To increase the capacity of collaborative grantees and partners to implement ongoing outcome evaluation activities;
- To identify and communicate the characteristics, service components, and strategies for effective collaborative efforts to better serve the needs of families and children;
- To identify and communicate common themes and strategies across effective collaboratives; and
- To provide data that will inform recommendations for future collaborative initiatives.

Evaluation consultants from the University of Minnesota are following a three stage plan for addressing these objectives:

Stage 1: Development of broad evaluation questions that will be answered through various data collection procedures and forms. A list of these guiding questions appears on the next page.

Stage 2: Development/revision of reporting documents to include question items and response formats that provide information to answer the broad evaluation questions. Reporting documents include:

A. the grant application form completed by collaborative sites;
B. an agency report completed by state agencies involved with the collaboratives;
C. a semi-annual progress report form (formerly the quarterly report form) completed by collaborative sites;
D. an annual survey form completed by state agencies and collaborative sites;
E. the final report submitted by each collaborative site to the Children's Cabinet.

Documents B-E are currently being revised and/or developed by the evaluation consultants in cooperation with the Children's Interagency Technical Assistance Team (ChITA) and Minnesota Planning.

Stage 3: Development of comparable outcome evaluation designs across multiple sites. The materials included in this manual are intended to provide an overall framework for sites to use in specifying their outcomes and evaluation designs.

Once these stages are completed, sites will be prepared to collect and report comparable outcome data (although the specification of outcomes and evaluation plans will vary from site to site). The role of the evaluation consultants from the University of Minnesota will then be to (a) provide technical assistance to the sites related to their evaluation designs; (b) summarize information from the reporting documents described above in order to answer the guiding evaluation questions; and (c) share findings related to the guiding evaluation questions with the sites, ChITA, the Evaluation Focus Team, and the Children's Cabinet for discussion.

Key dates related to the development and implementation of the evaluation system include:

EVALUATION TASKS AND TIMELINES

COMPLETION DATE	ACTIVITY	RESPONSIBILITY
2/17/95	Overarching evaluation questions specified	Bloomberg and Seppanen
2/21/95	Overarching evaluation questions disseminated to evaluation and local sites for review and comment	Boston and Reardon
2/24/95	Deadline for comment on overarching evaluation questions	Comments received by Bloomberg and Seppanen
3/2/95	Final draft of evaluation questions approved	Children's Cabinet
3/29/95	Local evaluation plans developed	All sites
4/17/95	ChITA TEAM MEETING (present initial list of barriers, draft survey)	Bloomberg , Seppanen
5/19/95	**Local outcome evaluation designs submitted to evaluation consultants for compilation/clustering**	LOCAL SITES
5/19/95	EVALUATION TEAM MEETING	---
6/30/95	Semi-annual progress report completed by local sites	Local Sites
6/30/95	Annual Survey forms completed by identified stakeholders	to be identified
8/7/95	ChITA meeting (presentation of survey findings)	Bloomberg and Seppanen
2 years after receipt of implementation funds	Outcome Reports completed by each local site; submitted to Children's Cabinet	local sites

Broad Evaluation Questions

The intent of this workshop is to prepare collaborative sites to specify and measure the outcomes of their efforts. The outcome data submitted by sites will be used to answer questions 6.1, 7.1-7.4 and 8.1-8.3. The evaluation consultants will summarize information from other sources (the grant applications, agency reports, semi-annual progress reports, and an annual survey) to answer the other broad evaluation questions listed here.

CONTEXT

1.1 What factors and community characteristics have influenced the design and implementation of the collaborative initiatives?

1.2 What issue(s) or problem(s) were the collaboratives designed to address?

BARRIERS

2.1 What are barriers to implementation of the collaborative initiatives at the state and local level?

2.2 How have collaborative initiatives addressed local-level barriers?

2.3 How have state-level barriers been addressed?

COLLABORATIVE PROCESSES

Involvement

3.1 How are organizations/agencies, community groups, and families chosen to be directly involved in the collaborative initiative?

3.2 Which organizations/agencies, community groups, and families are directly involved in the implementation of the collaborative initiative?

3.3 What role(s) do participating organizations/agencies, community groups, and families play in the collaborative initiative?

Governance

4.1 What governance structures are in place within each collaborative site?

4.2 Who participates in the governance of the collaborative initiative? How are these participants chosen?

4.3 What authority does the governing body have?

Resources

5.1 How have grant funds been used?

5.2 How much funding has been leveraged from other sources for use by the collaborative initiatives?

5.3 To what extent are sites integrating funds and resources?

Organization Elements

6.1 * What are the key elements of the implementation plans for collaborative initiatives?

6.2 To what extent are key elements culturally relevant?

6.3 What progress have the collaborative sites made toward implementing the key elements of their local plans?

OUTCOMES

Systemic Change

7.1 * What types of systemic change do the collaborative initiatives expect to achieve?

7.2 * What are the indicators of systemic change in collaborative sites?

7.3 * What are the indicators of systemic change at the state level?

7.4 * To what extent has systemic change occurred?

Outcomes for Children, Youth, and Families

8.1 * What types of outcomes have been specified by the collaborative initiatives?

8.2 * What indicators substantiate the achievement of these outcomes?

8.3 To what extent have the outcomes been achieved?

*These questions will be specifically addressed at the evaluation workshop.

Developing a Common Language

Overview

The purpose of this workshop is to assist collaborative teams in conceptualizing and specifying their outcome evaluation designs using a common format that will allow for both site-specific and cross-site reporting. This step is the *summative* or *product* phase of a program evaluation; it will yield data regarding the *impact* of the collaboratives on children, families, community, and the service system as a whole.

Because the collaborative initiatives are in the early stages of implementation, it is important to understand how an evaluation of outcomes fits with other important evaluation approaches. These other approaches include:

Needs assessment. A need is defined as the discrepancy between *what is* and *what ought to be*. Once identified, needs are typically placed in order of priority. They are the basis for setting goals and objectives. The planning grants awarded to collaboratives focused on the identification of needs and the articulation of collaborative goals.

Program planning. From collaborative goals, specific, measurable objectives are specified and a plan containing the means to attain these objectives (procedures, strategies, and activities) is formulated. The planning grants allowed collaborative sites to begin program planning. Research on planning and implementation has demonstrated, however, that it is not a linear path from planning to implementation. Collaboratives will cycle back-and-forth between planning and implementation as they pilot, implement, revise, and ultimately institutionalize the key elements of their initiatives.

Formative evaluation. There are two aspects to the *formative* or *process* phase of evaluation:

- Progress evaluation activities focus on monitoring indicators of progress toward goals and objectives. The sites will report information regarding their progress as part of the semi-annual progress reports.
- Implementation evaluation activities focus on the identification of discrepancies between the plan and reality at a given point in time. This activity keeps the initiative true to its design or modifies it appropriately. The sites will report information regarding the implementation of their plans as part of the semi-annual progress reports and an annual survey. Sites may also include an implementation evaluation as part of their local evaluation efforts.

Beyond reporting on their progress and implementation status, collaborative sites may wish to implement evaluation procedures to allow local stakeholders to reflect on the effectiveness of a number of key dimensions of collaborative relationships. Sites may be particularly concerned with issues related to the quality of collaborative processes and the relationships among participant organizations and groups. The seven dimensions that are typically part of a process evaluation of a collaborative include the focus of the relationship (client, agency, or system), levels of staff involved, degree of formalization in terms of governance and decision making, resource involvement, focus of power, and degree of goal congruence.

One aspect of the technical assistance available from the University of Minnesota consultants will focus on facilitating local collaborative sites in designing and carrying-out formative evaluation efforts.

Outcome evaluation. This step represents the focus of the report due to the Children's Cabinet within two years of the date on which a collaborative receives an implementation grant. Although each initiative has its own special characteristics, we are striving toward creating a common language that will allow for communication and comparison among the different initiatives. The materials included in this manual introduce a five step process for specifying an outcome evaluation design:

- Defining and specifying the *key elements* of the collaborative initiative;
- Specifying *evaluation claims* about the observable effects of the initiative;
- Specifying the evidence or documentation that may be used to substantiate each claim (these are called *indicators*);
- Creating a *map* that links the key elements and indicators; and
- Specifying an *evaluation plan* that includes:

  - Level of evidence for each indicator
  - Sample
  - Instruments/procedures
  - Timing of measurements
  - Data analysis
  - Standard of comparison

Each site will prepare and submit a statement of their outcome evaluation design (e.g., the key elements of their initiative, evaluation claims, indicators, a map that links the key elements and indicators, and evaluation plans). The evaluation consultants will provide feedback to the sites on their submissions and will prepare a summary report that describes the evaluation designs of all sites. This report will be shared with the collaborative sites, the ChITA group, and the Children's Cabinet.

Key Elements

Definition of a Key Element

Key elements refer to the strategies, activities, or mechanisms that will be implemented in a collaborative site to attain the goals and objectives of the initiative.[1] Key elements describe what the collaborative initiative looks like in practice as it is implemented. Most collaborative initiatives can be described with 10 to 15 key elements. The key elements of a collaborative initiative help to answer the following questions:

1. What are key players (organizations, staff, families, parents, children and youth) each doing as part of the collaborative that will result in the desired outcomes? What happens in a typical day/week/year?

2. What collaborative practices are central to achieving the outcomes and/or innovation?

3. What would a visitor to your site see when the collaborative is fully operational?

Instructions for Identifying Key Elements

1. Identify the types of key players who are part of the collaborative initiative (e.g., children, youth, parents, families as a whole, staff, organizations and groups).

2. Brainstorm what *each* key player will do as part of the collaborative when it is fully implemented (refer to the categories of elements on the next page).

3. Develop a sentence that describes the ideal use of each element. The sentence describing the element should have a subject (the key player who implements or uses the element) and an action verb. The sentence should be as concrete as possible (e.g., *The XYZ elementary school provides elementary-age children and their families with integrated services [specify what types of services] that are located at or directly linked to the school.*)

4. (Optional) Since your collaborative initiative may involve a number of key elements that are not yet fully operational, identify other variations of each element that are acceptable in the short term (e.g., *The XYZ elementary school provides elementary-age children and their families with integrated services [specify a smaller set of services] that are directly linked to the school [but not yet located at the school]*)

Remember: Key elements are not the same as collaborative goals and objectives. Key elements are the strategies, activities, or mechanisms that will lead to the desired outcomes.

---

[1] The goals and objectives that have been specified by the collaboratives represent a mix of statements related to what the initiatives hope to accomplish (in terms of outcomes for children and youth, parents, families, and systemic change) and how they plan to accomplish these outcomes (in terms of key elements). When used here, the term "objective" refers to what the initiatives hope to accomplish in terms of outcomes.

Examples of Key Elements

Most initiatives can be described with 10-15 key elements. Identify the key elements of your initiative that are critical to achieving the desired outcomes for children and youth, families, and the system as a whole. The following examples of key elements are from two sources: (1) a review of the collaborative and service integration literature, and (2) a review of the documents and reports that have been prepared by collaborative sites to date. Many of the phrases are general statements and with further refinement could serve as key elements. Use these phrases as a basis for discussion among your collaborative team.

Organizations, staff, or community groups will . . .

Outcomes Orientation

- articulate a common set of desired outcomes for all children, youth, and families

Collaborative Governance

- implement a governance structure that includes families and service providers
- create and maintain interagency agreements
- establish policies regarding collaborative activities

Comprehensive Planning

- participate in a local collaborative council to coordinate services and provide overall direction
- consult with school-age children and their families on the best way to serve them
- identify the assets and needs of children and families in their communities and target resources to be redirected accordingly
- host community meetings regarding resource allocation or service provision

Information Management and Sharing

- use computer networks to share client and agency information
- provide a comprehensive community resource directory
- provide a toll-free information and referral service

Funding Integration and Reallocation

- commit financial resources to an integrated fund
- provide a direct-services flexible fund as a source of last resort resources for families and students
- establish a wrap-around services fund
- design services to meet the requirements for state/federal reimbursement or private grant funds
- reinvest dollars saved into ongoing and broad-based local prevention efforts

Public Awareness

- prepare and release information to the public
- write and distribute a newsletter

Case Management/Service Coordination

- integrate assessment and referral activities to create a single referral and entry point for families
- develop and carry out with each family a prevention-intervention plan
- provide unitary case management for families needing referrals to multiple agencies
- jointly review cases and minimize service duplication
- have the authority to establish service eligibility of families

Service Scheduling

- expand the hours that services are available
- provide staff during peak hours of service use
- provide more drop-in times

Service Accessibility

- provide counseling and family services coordination for students and their families both in school and at home [this may actually involve multiple key elements]
- conduct home-visits when transportation is a barrier to families accessing services
- provide and coordinate services at an easily accessible location
- provide information about transportation options
- provide universal access to medical services at XYZ medical center

Outreach

- provide education and support during home visits to pregnant women and families with infants
- provide periodic family visits to children identified as at-risk
- provide a universal contact for pregnant women and parents with newborns
- provide universal monitoring of child development from birth through age 4
- provide a universal contact for early childhood screening and school registration
- identify and contact children who may need crisis-oriented services
- recruit parents and youth to participate in services and activities

Service Provision

- provide families a menu of service options to pick from
- provide an after-school enrichment program, recreational activities, summer activities, etc.
- provide expanded options for child care
- provide a toy-lending library
- provide adult basic education

- provide parenting education classes to [identify target group]
- provide support groups
- provide tutoring to [identify target group]
- provide appropriate curricula on diverse cultures
- provide in-home family therapy to [identify target group]
- provide a day treatment program for mentally ill children [may actually involve multiple key elements]

Service Integration

- provide parenting classes and other services [specify] at a family resource center
- provide child-care and other services [specify] at a center that is co-located with a business that provides jobs and job training opportunities
- integrate all [specify service: housing, transportation, child care, etc.] services in the community
- provide elementary age children and their families with school-based integrated services [specify types of services and location] for prevention and/or early intervention
- provide jobs and job training at a family resource center

Barrier Reduction

- identify barriers to delivering services and strategies to eliminate barriers
- eliminate barriers to integrating and reallocating resources for children and families
- change rules, regulations, and mandates that interfere with the initiative's work [or seek variances]

Staff Training

- recruit and train volunteers
- participate in cross-agency staff development activities
- provide cross-training for staff across agencies/organizations in [specify training areas]

Families will . . .

- use transportation options
- access services in a timely way
- seek and choose services they feel are necessary to address their needs
- participate in early childhood screening
- participate in a comprehensive family assessment process
- participate in ECFE
- participate in home-based family therapy

- borrow toys from a toy lending library
- participate in intensive services [specify types and how often]

Parents will . . . .

- participate in designing and developing a family center
- receive prenatal care
- attend workshops [specify types and how often]
- provide a safe and secure environment for their children [should be more concrete]
- seek information about support programs, services, and resources available
- develop their own individualized prevention and remediation plan
- solve their own problems
- work with a case manager to identify needs and develop a family action plan
- participate at community meetings regarding violence prevention
- provide feedback to evaluate and improve the service delivery

Children and youth will . . .

- provide positive peer support
- participate in health check-ups
- participate in immunization clinics
- participate in child care
- attend school regularly
- attend classes for teen parents
- attend summer activities [specify types]
- participate in special community projects [specify types and how often]
- attend a day treatment program [includes two or three key elements]

Key Elements Worksheet

Initiative Name:_____

Statement of key element:

Other acceptable variations:

Statement of key element:

Other acceptable variations:

Statement of key element:

Other acceptable variations:

Statement of key element:

Other acceptable variations:

Statement of key element:

Other acceptable variations:

Claims

Definition of a claim

A *claim* is defined as the observable effect of your initiative on children and youth, families, or on the service system as a whole. Claims are based on the measurable changes expected in the targeted participant group.

Instructions for Identifying Claims

1. Succinctly state the major observable effects of your collaborative on the intended beneficiaries.

2. Generally, a claim statement includes the target group and the nature of the change expected.

3. Target groups may include children or youth, parents (or expectant parents), families, or the service system as a whole.

4. Changes may include

   A. Improved status in a particular domain (e.g. health, nutrition, physical development, language development);

   B. Changes in knowledge and skills;

   C. Improvement of attitudes and behaviors

   D. Improvement in institutional or system practices and procedures.

5. Changes in B, C, and D (above) should logically be expected to contribute to a change in A (above).

Examples of Claims

- The number of cases of childhood diseases for which immunization is available will decrease in ABC county *(child and family health)*.

- Parental violence directed toward children will decrease *(family functioning)*.

- School-age students in ABC school will show improved academic achievement *(school performance)*.

- Families will increase the time spent participating in intellectually challenging activities and using intellectually challenging materials *(child development)*.

- An increased proportion of parents whose children attend XYZ school will regulate the television viewing of their children *(family functioning, child development)*.

- By instituting an integrated fund, duplicate efforts [specify] will be eliminated and expanded opportunities [for what] will be provided at significantly reduced costs *(systemic or institutional change)*.

Definition of an Indicator

An *indicator* is the evidence or documentation you could use to substantiate a claim about the observable effect of your initiative. Think of indicators in terms of children and youth, family, and institutional outcomes that you could point to as evidence that the key elements of your collaborative have had an impact.

In addition to thinking about long-term impact, teams should consider the identification of *intermediate* indicators that reflect the observable effects of the collaborative in the short-term (during the next two years). There are a number of reasons for also identifying intermediate indicators:

- a number of intermediate variables may predict long-term changes in key outcome variables. For example, information about immunization rates can be collected in the short term and should predict longer-term changes in the incidence of certain communicable diseases;
- collaborative initiatives vary in terms of their implementation status; it may not be fair to evaluate a new initiative during the next year or two in terms of long-terms effects; and
- service use patterns, changes in attitudes, changes in behaviors, and changes in institutional practices represent an intermediate step in the implementation of a well-developed collaborative initiative and serve to indicate that progress is being made toward achieving the long-term claims about observable effects.

Instructions for Identifying Indicators

1. Use one claim/indicator worksheet per claim identified.
2. Identify the indicators that represent the evidence or documentation that you and your community can use to substantiate a claim about the observable effect of your collaborative initiative in the long-term.
3. Next identify intermediate or short-term indicators that could be used in the next two-years to substantiate intermediate effects that will logically contribute to the long-term effects.
4. In selecting indicators, collaborative teams must strive to identify a number of variables that adequately represent the status of children and families in the short- and long-term. At the same time, this set must not be so large that the required data cannot be easily collected by local collaborative sites (Thorton, Love, & Meckstroth, 1994).
5. Begin to talk about existing data sources or the type of instrument that would be needed to collect data related to the indicators. In particular, what steps need to be taken regarding the identification/use of existing data sources?

Issues to Consider in Selecting Indicators

1. Does it measure conditions of children, youth, and families at the local level?

2. Is it available annually?

3. Can trends be tracked over time in ways that show if things are getting better or worse?

4. Is the data comparable to data collected in other communities or other similar areas?

5. How large is the number of children or families affected (i.e. is the number so small that no real conclusions can be drawn from it, as with a change from 2 to 4 children or families, which is technically a 100% increase in the problem, but which is an unreasonable interpretation of the numbers)?

6. What data are available now with no increase in spending for data collection or analysis; what data are available now but require some analysis to extract; what data are available only if major new spending is undertaken?

7. Can reasonable estimates be made, even if the ideal data are not available?

8. Does the indicator measure the status of children, instead of the scope of the programs (i.e. that there are 1000 day care slots in a community may be far less relevant than knowing the employment status of working parents or other indicators of the need for child care)?

9. Is the indicator skewed by the denominator (i.e. a change in the teen birth rate may have more to do with demographic changes than teen behavior and the number of teen births, so watching overall population changes is important in interpreting changes in specific indicators)?

Sample Claims and Indicators

Fully implemented collaborative initiatives will produce a variety of outcomes. Identify abbreviated claim categories to represent your claim statements about the observable effect of your initiative. Next develop a comprehensive list of possible indicators to substantiate it. Be sure to identify both short- and long-term effects. The sample indicators below should help you get started. The articles included in part five of this manual offer a fuller listing of potential indicators.

Claim	Intermediate Indicators	Long Term Indicators
(Child and Family Health)	• Immunization rates	• Incidence of preventable diseases
(Family Functioning)	• Use of community resources and supports • Discipline style at home	• Substantiated incidence of abuse or neglect
(Child Development)	• Participating in early childhood education and care	• Milestones in cognitive, emotional, social, and physical development
(School Performance)	• School attendance	• Academic achievement
(Youth Maturation and Social Integration)	• Employment • Volunteering	• Incidence of violent crimes
(Systemic or Institutional Change)	• Improvements in services to particular client groups • Reduction in costs and improvements in efficiency of service delivery • Increase in use of information • Reduction in barriers	

Claim and Indicator Worksheet

Initiative Name: _____

Claim: _____

_____

NOTE: Most claims will have several indicators and reflect short- and long-term effects.

Short-term indicators:

Notes about existing data sources, instrumentation needed, or action to be taken:

Longer-term indicators:

Notes about existing data sources, instrumentation needed, or action to be taken:

Mapping Key Elements and Indicators

Definition

A map of key elements and indicators is a picture of the means and the steps by which the collaborative is intended to work. It represents an hypothesis of a sequence of events. A map clarifies and systematizes the key elements and indicators of effect that are worth examining. One of the advantages of setting down the expected path of change is that some of the assumptions that may be implicit in the collaborative are made explicit. Collaborative planners are able to see the link between the key elements of the initiative and the desired outcomes. If long term outcomes do not improve, collaborative planners and evaluators have some clue about why.

Instructions for Mapping Key Elements and Indicators

In columns from left to right, create lists of your key elements, your short-term indicators, and your long-term indicators. Decide which key elements will lead to which short-term indicators. Decide next which key elements and/or short-term indicators will lead to which long-term indicators. Draw lines to indicate these linkages.

Since we don't live in a linear world, there may be overlap. One key element may lead to another key element. A key element may lead to multiple indicators. Or, multiple key elements may link to a single indicator.

Ultimately, your map will be complete when each key element or indicator is linked in some way.

If you end up with key elements or indicators that are not linked in some way, the next step is to re-think the specification of key elements and indicators to determine

- if there is a collaborative <u>design</u> issue (e.g., the community identified certain critical outcomes that are not related to the collaborative design or certain key elements of the collaborative are not related to any valued outcomes); or

- if there is a <u>documentation or connection</u> issue (e.g. the team did not fully specify all key elements or some key elements are not really critical and should be dropped; there should be a coherent connection among the elements and indicators).

As the collaborative initiatives evolve and grow, teams may want to create updated maps of the links between key elements and expected short- and long-term outcomes.

Mapping Work Sheet

Initiative Name:_____

In columns from left to right, list your key elements, your short-term indicators, and your long-term indicators. Decide which key elements will lead to which short-term indicators. Decide next which key elements and/or short-term indicators will lead to which long-term indicators. Draw lines to indicate these linkages.

Key Elements	Short-term Indicators	Long-term Indicators

Evaluation Plans

Definition

Once the collaborative has defined its key elements, claims, and short- and long-term indicators, the next step is to specify a plan for collecting and analyzing data that measures the status of each indicator. The major components of an evaluation plan include the specification of the level of evidence that will be gathered (outcome evaluations typically focus on measures of impact), a sampling plan, the sources of data, instrumentation and data collection procedures, timing of data collection, data analysis, and any standards of comparison that will be used as part of the analysis. ***It is in these areas that a local evaluation consultant may be particularly helpful to the collaborative.***

Instructions for Completing Evaluation Plans

Collaborative teams should specify separate evaluation plans for each indicator or groups of closely related indicators. Use one evaluation planning worksheet per indicator or set of closely related indicators.

Key components of an evaluation plan include:

1. **Level of evidence.** Decide if the evidence (data) that will be gathered involves

   A. documentation of the level of participation in activities (e.g., percentage of eligible population who participate in a service; amount of participation)
   B. gathering perceptions of impact (e.g., self-reports of participants or staff)
   C direct measures of impact (e.g., direct measures of performance)

If the collaborative team has specified indicators that primarily involve the collection of A and B types of evidence, the evaluation design may not yield the type of outcome evaluation that was mandated by the Minnesota Legislature.

2. **Sample.** Decide if data collection will include

   A. All potential participants in a specified geographic area
   B. A sample of all eligible participants in a specified geographic area
   C. A specific subgroup (e.g., individuals who actually receive services under the collaborative umbrella)

Collaborative teams need to remember that the overriding interest is in the community as a whole, regardless of current levels of participation in various programs or organizations. According to Thornton, Love and Meckstroth (1994):

> Data for specific sub populations of the community may misrepresent the status of all families and provide a poor basis for policy development. Furthermore, communities are often interested in the extent to which families participate in specific activities (such as how often pregnant woman receive adequate prenatal care). Such participation rates can only be estimated by looking at all eligible persons, rather than only at those using a particular service.

At the same time, collaborative teams need to remember that certain indicators are of special interest to policy makers (i.e., crime rates and infant mortality), but remain largely impervious to change at the community-level. Collaboratives specifying these indicators may want to access data in such a way to be able to analyze it separately for participants in collaborative services. Participant data might then be compared to data on a community-wide or state-wide level.

3. **Instrument(s) or procedure(s).** Specify if data collection will involve

A. Assembling data from existing sources either electronically or manually (e.g., birth certificates, death certificates, school registration forms, public health surveillance data, child abuse reports, school records, police crime reports, census data)
B. New data collection using an existing instrument (specify)
C. New data collection involving a specially developed instrument (e.g., surveys of community members or participants, direct observation, or direct assessments)

Collaborative teams will need to determine who will be responsible for assembling data, identifying existing instrumentation or developing new instruments, and coordinating any new data collection. Teams must balance the value of the information gained from collecting new data with the costs of doing so.

4. **Timing of measurements.** Specify the frequency of data collection as

A. Post-test only -- data are collected or assembled once after implementation of a key element(s)
B. Pre-test/Post-test -- data are collected or assembled before and after the implementation of a key element(s)
C. Repeated measures -- data are collected or assembled periodically (continuously, weekly, monthly, annually, every three or five years)

Collaborative teams will need to determine the actual schedule for collecting or assembling data. Collaboratives should consider initiating repeated measures of long-term indicators now. Initiation of collection of data regarding short-term indicators should be tied to the implementation status of the key element(s) that are linked to that indicator(s). If implementation is clearly delayed, data collection should also be delayed.

5. **Data analysis.** At a minimum specify if indicators will be reported as

A. Rates
B. Proportions (for example, the proportion children receiving vision and hearing screening in the past 12 months)
C. Standard scores
D. Percentiles
E. Frequencies
F. Measures of central tendency (e.g. mean, median, mode)
G. Qualitative Analysis (e.g. coding and reporting on key themes from observation, open-ended surveys, focus groups, etc.)

Note: It is likely that qualitative analyses will be used more frequently as part of local sites' internal formative evaluations

6. **Standard of comparison.** It is important for collaboratives to answer the question *"As compared to what?"* regarding any outcome data collected. There are a number of approaches for collaboratives to consider:

A. Comparison to baseline data (e.g., pre-test or data available prior to initiation of collaborative)
B. Comparison to a comparable neighborhood, community, or county
B. Comparison to statewide data
C. Comparison to national data
D. Comparison to data reported in another study that used the same measures
E. Comparison to an established standard of performance
F. Comparison of trends over time

Evaluation Planning Worksheet

Initiative Name: _____

Specific Indicator(s): _____

(check all that apply in each category)

Level of evidence

___ Documentation of the level of participation in activities
___ Gathering perceptions of impact
___ Direct measures of impact

Sample

___ All potential participants in a specified geographic area (specify below)
___ A sample of all eligible participants in a specified geographic area (specify below)
___ A specific subgroup (specify below)

Instrument(s) or procedure(s)

___ Assemble data from existing sources either electronically or manually (describe below)
___ New data collection using an existing instrument (specify below)
___ New data collection involving a specially developed instrument (describe below)

Timing of measurements

___Post-test only
___Pre-test/Post-test
___Repeated measures
___Other (*specify*):_____

Specify actual schedule for collecting or assembling data.

Data analysis

___Reported as rate
___Reported as proportion
___Reported as standard scores
___Reported as percentiles
___Reported as frequencies
___Qualitative analysis
___Other (*specify*):_____

Standard of comparison

___Comparison to baseline data
___Comparison of subgroup to eligible population in collaborative as a whole
___Comparison to a comparable neighborhood, community, or county
___Comparison to statewide data
___Comparison to national data
___Comparison to data reported in another study that used the same measure
___Comparison to an established standard of performance
___Comparison of trends over time
___Other (*specify*):_____

Person(s) responsible for instrumentation, data collection, and data analysis:

Resources

Key Activities of Evaluation Consultants

Laura Bloomberg and Patricia Seppanen are the evaluation consultants from the University of Minnesota, Center for Applied Research and Educational Improvement (CAREI). The work of the evaluation consultants includes:

- Attending meetings of the Evaluation Focus Team and joint meetings of the four partners of the Minnesota Children's Initiative (upon request);

- Preparing a review of the literature related to family service collaboratives, interagency program development, and the evaluation of such initiatives (the current draft of this literature review is included in part four of this manual);

- Articulating an overall evaluation system, including the specification of broad evaluation questions; the identification of sources of data to answer each broad evaluation question; revision of existing report formats (the quarterly site report format and agency reporting strategies); and development of an annual survey form, a data collection schedule, and a cross-site data analysis plan;

- Providing technical assistance and support to the collaborative sites in the formulation of their outcome evaluation designs; these technical assistance activities will be coordinated with the work of the Children's Interagency Technical Assistance Team (ChITA) and the Evaluation Focus Team;

- Summarizing evaluation data submitted by the collaborative sites as part of their progress reports, an annual written survey, and outcome evaluation reports; as data are summarized, the consultants will share it with collaborative sites, the Evaluation Focus Team, ChITA, and the Children's Cabinet for discussion;

- Preparing progress reports and a final report; the progress reports will focus on the status of all work to date; the final report will summarize evaluation findings regarding Family Service Collaborative and the Minnesota Children's Initiative outcomes and impact identified to date.

In terms of technical assistance and support, the evaluation consultants are available to

- Provide two full-day evaluation related workshops for collaborative teams (the second workshop will focus on a priority topic identified by the sites such as approaches to formative or process evaluation);
- Review and comment on draft evaluation designs developed by collaborative sites;
- Participate in conference calls (upon request);
- Provide individual phone consultation;
- Identify resource materials to meet common needs expressed by collaborative sites (e.g., instrumentation that is developed by sites or lists/copies of instruments available from other sources).

To request technical assistance, contact Laura Bloomberg at 612/625-0502.

Please fill out and return to Laura the technical assistance request form that appears on the next page if your site has immediate needs for assistance.

Technical Assistance Needs Related to Evaluation

Initiative Name:_____

Contact Person: _____

Phone Number: _____

1. Please indicate below your current needs for technical assistance related to specifying an outcome evaluation design.

(check all that apply)

___Assistance in specifying key elements of the collaborative initiative

___Assistance in specifying claims and indicators

___Assistance in sample selection

___Assistance in specifying the source of data

___Assistance in selecting or developing instrumentation

___Assistance in specifying data collection procedures

___Assistance in specifying the timing of data collection

___Assistance in determining appropriate data analysis procedures

___Assistance in determining an appropriate standard of comparison

2. Indicate assistance that would be helpful to you in designing other evaluation approaches.

(check all that apply)

___Assistance in designing an evaluation of the implementation of collaborative activities

___Assistance in designing an evaluation of progress on collaborative goals and objectives

___Assistance in designing an evaluation of the quality of collaborative processes

___Assistance with other evaluation related work (*specify*)_____

_____ _____

3. Describe the mode(s) of assistance that would be most helpful to you (review of draft materials, phone consultation, additional training, resource materials such as lists of instruments or sample instruments).

4. Summarize any evaluation approaches or materials (particularly data collection instruments) that you would be willing to share with other collaboratives.

Please return this form to:

Laura Bloomberg
Center for Applied Research and Educational Improvement
265 Peik Hall
University of Minnesota
Minneapolis, MN 55455

Phone: 612/625-0502
FAX: 612/625-3086

CHAPTER 3

The Case for Shifting to Results-Based Accountability

By Lisbeth B. Schorr, with the collaboration of Frank Farrow, David Hornbeck, Sara Watson

The current ferment around using results as a way of assessing the success of efforts to improve the lives of children and families, and of shifting to a results-based accountability system has given rise to **hope, fear,** and **confusion.**

Hope that results-based accountability could be the key to:

- ▲ freeing schools, health care, social agencies, and other human services from the rules that prevent them from operating flexibly in response to the needs of those they serve,
- ▲ restoring the public's faith that both public and private human service institutions can accomplish their intended purpose, and
- ▲ encouraging communities to be more planful, more intentional, in how they support children and families.

Fear that results-based accountability will be misused and bring about:

- ▲ the abandonment of attempts to better the conditions of disadvantaged children whose effects are difficult to measure or take a long time to occur,
- ▲ the erosion of essential procedural protections and neglect of concerns for equity,
- ▲ a smokescreen behind which further funding cutbacks will be made, or
- ▲ penalizing individual professionals, institutions, and agencies who may not be achieving hoped-for results, but are trying hard and doing the best they can.

Confusion about how to devise and obtain agreement on a set of goals and outcomes, and reliable ways of measuring results that could justify the hopes and quell the fears of the many concerned constituencies.

This paper sets out some of the issues in the shift to results-based accountability, and identifies a start-up list of outcome measures. The authors see results-based accountability as an essential part of a larger strategy to improve outcomes for children. Subsequent materials will be developed to address how these outcomes can be translated into a program agenda; how that program agenda can then lead to a budget and a financial plan; and how, over time, results-based accountability can be combined with both rewards and penalties, based on performance. This paper sets the stage for those later discussions, but all readers, especially policymakers, should note that the real benefit of results-based accountability can be realized only through that full sequence of activities.

I. What is at Stake in the Shift Toward Results-Based Accountability

A. *Results-based accountability can replace — or at least diminish the need for — centralized bureaucratic micromanagement and rigid rules.* Effective services require a significant degree of both local variation and frontline discretion, which cannot be maintained in the face of detailed regulation of program inputs that tie the hands of front-line professionals. Management by **results** is the best alternative to top-down, centralized micromanagement, which holds programs responsible for adhering to rules that are so detailed that they interfere with a program's or institution's ability to respond to a wide range of urgent needs.

Policy makers can be encouraged to desist from

Policy makers can be encouraged to desist from regulating inputs and prescribing detailed procedures if they have the capacity to hold programs, institutions, and those who implement and run them accountable for results.

regulating inputs and prescribing detailed procedures if they have the capacity to hold programs, institutions, and those who implement and run them accountable for results. The use of outcome indicators that reflect common sense and common understanding (indicators that show, for example, that the rates of low-weight births are being reduced, or that more students are demonstrating age-appropriate mastery of school skills) helps to focus attention on agency mission rather than rules, and permits the necessary flexibility and autonomy at the front-end. Auditors can spend less time reviewing records to see how many services were provided (e.g., how many families were seen) and whether the forms documenting eligibility for services were properly filled out. Instead, they spend more time on inquiring into the results achieved (such as the reduction of multiple or inappropriate out-of-home placements for children). The question asked of professionals at the front-lines, be they teachers, social workers, or health professionals, would shift from "Did you do what they told you to do?" to "Did it work? What difference did it make in outcomes for children?" A changed organizational climate would be the result, in which well-trained professionals would be able to use their judgment and experience to respond flexibly to the needs of children and families, rather than being constrained by pressures of funders who see detailed input regulation as their only means of protecting the public interest.

One example of how this approach can work comes from Kentucky: under the Kentucky Education Reform Act, the state decides <u>what</u>, and local communities decide <u>how</u>. (The process of deciding what a state will hold communities accountable for will optimally involve extensive consultation, as we discuss in Section V.A. on page 22.)

B. Outcome information can assure funders and the public that investments are producing results. Funders and the public are demanding information on which informed judgments can be made about whether institutions, programs and policies are in fact accomplishing their intended purpose. Polls show that a public that has lost confidence in government and other institutions is prepared to support new investments in schools and services when citizens are convinced that the investment is bringing promised results. Especially in a time of fiscal constraints, programs and agencies willing to be held accountable for achieving agreed-upon results will have a greater chance of obtaining needed funding and other support.

C. Agreement on desired results can facilitate cross-systems collaboration on behalf of children. As more individuals and agencies from different systems, disciplines, and backgrounds attempt to work together, they encounter barriers that are difficult to overcome in the absence of shared purposes that are explicitly defined and agreed upon. Agreement on a common set of goals and outcome measures not only makes collaboration easier, but also helps promote a community-wide "culture of responsibility" for children and families, and fuels the momentum for change.

D. Agreement on desired results helps to minimize investment in activities that don't contribute to improved results. Reflecting Alice in Wonderland's insight that if you don't know where you're going, any road will get you there, a focus on outcomes is likely to discourage expenditures of energy, political capital and funds on empty organizational changes and on ineffective services. Community-wide acceptance of shared outcomes thus helps to put service

A focus on results forces the question of whether outcome expectations must be scaled down, or interventions and investments scaled up. It assures attention to the adequacy question.

integration efforts into proper perspective. Fragmentation is such a big problem in existing services, that a great deal of energy is currently going into efforts to link services together. But while collaboration is a necessary condition for providing effective services, it is not sufficient. Alone, it will not improve results. It is futile to put together services that are ineffective because they are of mediocre quality, are rendered grudgingly, are rendered by professionals who don't work respectfully with families, and are unable to respond to the unique characteristics of the community they serve. The shared commitment to improve outcomes for children is what can make efforts at collaboration fall into place — not as an end, but as an essential means of working together toward improved results.

E. Information about results enhances community and agency capacity to judge the effectiveness of their efforts, and to modify activities in response to impact information. Because this is a time of rapid change in education, welfare, health and human services practices, programs, and systems, it is particularly important to improve the ability to make judgments about the effects of change: whether new or reformed services, new relationships among service providers and between providers and communities, and new connections among schools, services, and other community and economic development efforts, are working and worth the investment. When results are tracked on a timely basis and connected to service strategies, outcome information can provide guidance to program development as initiatives evolve.

F. A focus on results clarifies whether allocated resources are adequate to achieve the outcomes expected by funders and the public. An outcomes focus highlights how much investment is required to produce significant improvement in the lives of children and families. The new conversation about results is promising (or threatening) to end a conspiracy of silence between funders and program people. It exposes the fact that human service providers, educators, and community organizations are consistently expected to accomplish massive tasks with trivial resources and inadequate tools. A focus on results forces the question of whether outcome expectations must be scaled down, or interventions and investments scaled up. It assures attention to the adequacy question: are the resources being committed adequate to achieve the intended purpose.

A parent education program may be expected to reduce the incidence of child abuse in a neighborhood although it consists of only a few didactic classes. An outreach program to get pregnant women into prenatal care may be expected to reduce the incidence of low birthweight in a community although the sources of prenatal care are overcrowded, impersonal, and have no capacity to deal with homelessness, drug abuse, or lack of social support. In the past, when a significant discrepancy occurred between aspirations and documentable (or even potential) accomplishments, the response has typically been to retreat from a commitment to changing outcomes. As program managers and funders face up to the difficulties of actually changing real-world outcomes, and recognize the relative weakness of single, underfunded, piecemeal interventions compared to powerful social, economic, and demographic forces that push outcomes in a negative direction, they often agree just to measure how many people were reached or how attitudes and knowledge have changed among program participants. Together, all parties agree that it is unfair or inappropriate to hold the program accountable for actually improving

results when the program is doing the best it can. The reality that the investment is insufficient is thereby obscured.

In circumstances where it will take a critical mass of comprehensive, intensive, interactive interventions to change outcomes in a defined population, where interventions must be able to impact even widespread despair, hopelessness and social isolation in order to be effective, it is counterproductive to hide from ourselves the limitations of most current efforts. Recognition that the addition of a single new intervention, or even recognition that services alone may not be sufficient to change outcomes in the absence of changes in employment, economic security, physical safety and housing, is not an argument against results-based accountability. It is an argument for adequate funding of promising interventions, and an argument for human service agencies and schools to forge partnerships with efforts to create jobs and to improve housing and public safety, and to re-create the infrastructure of communities. It is an argument for defining what the community considers a set of adequate outcomes and then making sure that the resources needed to reach those results are made available.

II. Risks — to Recognize and to Minimize — in Making the Shift to Results-Based Accountability

While the shift toward results-based accountability brings many clear advantages, it is not an unmixed blessing. In fact, it carries real risks, which must be recognized and minimized through careful strategizing and thoughtful implementation.

A. Funders, the public, and even program people, may underestimate how long it takes to achieve significant improvement in outcomes. The single most frequently cited lesson from major current reform efforts is that it takes much more time than expected — both to get the initiative under way, and to get it to the point where it begins to show an impact on real-world outcomes.

B. Demands for documented results could drive programs away from achieving their mission of improving a broad range of results for a broad target population, when agencies:

- ▲ engage in "creaming" and ducking hard cases, or
- ▲ distort their activities to emphasize those that will show measurable and rapid results while neglecting equally or more important efforts that are harder to quantify and whose results don't show up as quickly. (For example, if immunization rates are the outcome on which health services are judged, it will be important to guard against allowing an emphasis on immunization strategies to result in the neglect of other primary and preventive services.)

C. Funders could be led to confine their support to interventions whose effects are readily and quickly quantifiable, in preference to more effective or subtler interventions whose benefits are harder to document. (A church-sponsored children's choir or a recreation center for teenagers may add to a sense of community, and thereby contribute to improved outcomes, without being able to demonstrate a direct outcome impact.) Protection must be explicitly provided to interventions that are vulnerable because:

- ▲ their effects show up years later,
- ▲ the data to document their impact are not

Achieving any of the core outcomes requires the activities of multiple agencies, as well as informal supports and community activities that are beyond a single agency's control.

available, or the technology to measure their effects does not exist, or

- the intervention is one of many preventive efforts that interact to produce cumulative later effects.

D. Some forms of outcome measurement could lead to labeling and stigmatizing children. Efforts to assess school readiness, for example, must be designed to take into account that "readiness" does not inhere solely in the child, that children don't all develop at the same rate, and that "readiness" is not just a cognitive matter, but includes physical and emotional health and social competence. In addition, school readiness should be assessed on a sample rather than an individual basis, to avoid labeling of individual children.

E. Agency accountability could be weakened as attention shifts to community-wide accountability efforts. Achieving any of the core outcomes requires the activities of multiple agencies, as well as informal supports and community activities that are beyond a single agency's control. Since no one agency, acting alone, can achieve any of the agreed-upon results, the question arises, how should individual public agencies, or systems — for example, the child welfare agency or the mental health system — hold themselves or be held accountable.

The answer lies in a careful "unbundling" of each outcome into the detailed steps and strategies which, together, can produce the intended result. For example, to increase healthy births, a host of related actions are necessary, one of which is likely to be that the local health department must organize and conduct outreach to all high-risk mothers to ensure that they have adequate prenatal care. Once the health department's role is specified within the context of the overall strategy, measures can be applied to how well the health department is performing this role and the department can be held (and can hold itself) accountable for this result. So, to continue this example, if all parts of a strategy to increase healthy births are successfully accomplished except one (e.g., the health department's), then the health department can be held accountable by the community for better performance.

F. The shift to results-based accountability should not be seen as a panacea. An outcomes orientation does not guarantee the design of an effective community service and support system. Especially because current understanding of the precise connections between specific interventions and specific outcomes is limited, an outcomes orientation does not **solve** the problem of identifying needed and missing elements of a comprehensive approach to improving results. However, by **informing and focusing** the process, result-based thinking does seem to support the development of a culture that is less rule-bound and more mission-driven.

G. The shift to results-based accountability cannot be allowed to substitute for rock-bottom safeguards against fraud, abuse, poor services, and inequities or discrimination based on race, gender, disability or ethnic background. Supporters of improved outcomes for children may in the past have overestimated the extent to which equity and quality could be safeguarded by regulation, and underestimated how much detailed mandating and strict rules could undermine responsiveness, flexibility, and the exercise of discretion. If the shift to results-based accountability is to attain its promise, it must be combined with better training of frontline workers and managers and careful monitoring, to make the

BEST COPY AVAILABLE

One key indicator of whether the outcomes orientation is influencing agency performance will be whether budget priorities change in response to the identification of shared outcome measures.

achievement of less rigidity in the provision of services compatible with the protection of vulnerable children and families.

The new outcomes orientation should not lead to the abandonment of all input and process regulation. Procedural protections will have to be maintained to protect against fraud, poor services, and inequities or discrimination based on race, gender, disability, or ethnic background. Procedural protections will also have to be maintained where there is no other way to restrict the arbitrary exercise of frontline discretion by powerful institutions against the interests of powerless clients. At the same time, reliance on process measures should not be allowed to drive out or obscure a continuing focus on results-based accountability.

H. When a community adopts a results-oriented system, fundamental changes in the allocation of resources will result and must be prepared for. One key indicator of whether the outcomes orientation is influencing agency performance will be whether budget priorities change in response to the identification of shared outcome measures. The shift to results-based accountability will be of little use in a community if it does not translate into management and budget priorities. The adoption of community outcomes will be ineffective if agencies revert to tradition and divide the results into isolated subsets that would be pursued separately by schools, social service agencies, the health sector, mental health agencies, juvenile justice, and others. As agencies, communities and systems begin to manage their resources to achieve agreed-upon results, set priorities based on these outcomes, and are held accountable for making progress toward these outcomes, some agencies will actually lose resources in the process. That risk must be acknowledged and prepared for at the outset.

III. Community Goals and their Relationship to Results-Based Accountability

Communities, states, and collaboratives can best begin the results-based accountability process by asking the question, "What do we want for our children?" By beginning in this way, these deliberations are usually able to go beyond earlier project- or problem-bounded discussions. They are then more likely to produce a consensus around basic goals which together constitute a vision that can serve to:

- ▲ capture aspirations,
- ▲ unify people who differ in many other ways around common aims for their children,
- ▲ focus attention not only on a wide range of formal services, but also on informal supports and opportunities, and
- ▲ surface value issues in the context of what people <u>want</u> for their children, before they get into the question of what is to be measured.

Examples of the goals that communities might choose include:

- ▲ higher rates of healthy births,
- ▲ higher rates of children ready for school learning at the time of school entry,
- ▲ higher rates of children succeeding at school, and
- ▲ higher rates of youth who achieve personal, social, and vocational competence (which might be further broken down into higher rates of youth who feel safe, who have a sense of self-worth, a sense of mastery, a sense of belonging, a sense of personal efficacy, who are socially, academically, and culturally competent, and who have the skills needed for productive employment).

BEST COPY AVAILABLE

Goals and outcome measures serve different purposes. The former represent what the community is striving for. The latter represent what the community will be held accountable for.

As a community embarks on the job of building an effective system of services and supports, these goals can become a framework that can be used for many purposes — inspirational, guiding service delivery, and guiding the selection of outcome measures for accountability purposes.

Only some aspects of these goals can currently be measured with widely available data and with outcome measures around which it is possible to gain widespread agreement. *Most communities will have aspirations for their children that exceed the results that are currently measurable*. Goals and outcome measures serve different purposes. The former represent what the community is striving for. The latter represent what the community will be held accountable for — by public and private funders and perhaps by higher levels of government. The goals can be general, but the outcome measures must be so specific, the public stake in their attainment so clear, and their validity and reliability so well established, that the community would be willing to see rewards and penalties, as well as resource allocation decisions, attached to their achievement.[2]

Thus the list of outcome measures that is attached represents minimal rather than maximum objectives, with the advantage of:

- allowing measurement to begin,
- allowing communities to reach agreement on results for which they are willing to be held accountable, and
- allowing voters, professionals, and program participants to see the direct connections between the goals for children they are trying to achieve, and the outcome measures used for accountability purposes.

We believe that a commitment to more visionary goals is entirely compatible with a commitment to documenting progress toward the achievement of these goals by the use of the outcome measures we propose. Agencies and communities that align their activities with these measurable outcomes (i.e., "teaching to the test") would be moving dramatically in the right direction. Furthermore, and most important, while the outcome measures we propose stop short of a more ideal and ambitious set of goals, substantial progress toward these outcomes would signify a radical improvement in the prevailing conditions of children and families.

IV. Starting the Shift to Results-Based Accountability

We believe that it is critical to start implementing systems of results-based accountability now, recognizing that the necessary procedures and technologies are still in the process of development. Too much is at stake not to begin. Not only is the overall well-being of children deteriorating in many ways, but the credibility of government capacity to help improve these outcomes is at its lowest point ever. If we are to maintain, let alone expand, investments in children's futures, we must be able to produce measurable results.

Although there are still many problems to solve in moving towards holding systems accountable on the basis of results achieved, we believe that the potential usefulness of results-based accountability now outweighs the risks. We believe that the shift to results-based accountability must be made carefully and thoughtfully, and that it must be led by those who care about both the process and the results, and not left to those who find it easy because they don't

BEST COPY AVAILABLE

A start-up list should consist of outcome measures that are considered important and meaningful by a wide range of policy makers, funders, and citizens.

understand the issues.

Many communities and agencies around the country have come to similar conclusions, and have already been hard at work, defining the goals and outcomes they intend to pursue. We have tried to learn from these processes now under way, and have identified a list of Child and Youth Outcomes,[3] around which it is relatively easy to obtain broad agreement, and about which data are readily available. We believe that the process of agreeing on a set of outcome measures will be simplified and speeded up if every state, every local community and every new initiative didn't have to start from Square One. The list of outcome measures, shown on the chart on page 21, is intended to serve as a starting point for discussion and negotiations.

For each of the outcome measures on our list, we also have compiled the following information (to be found in a separate volume, "A Start-up List of Outcome Measures With Annotations," available through the Center for the Study of Social Policy):

- definition
- significance
- relevant facts
- national, state, and local data sources
- additional comments
- related measures.

Our list is limited to child and youth outcomes,[4] follows a developmental sequence (from birth through childhood to young adulthood), and is based on criteria specifically designed to produce a set of outcomes for immediate use. We present our criteria and our rationale for inclusion here so that they can stimulate the discussion that is essential if a results-based orientation is to be widely adopted.

A. A start-up list should consist of *outcome measures that are considered important and meaningful by a wide range of policy makers, funders, and citizens*. In our view, the results chosen for accountability purposes should be transparent measures of success that are persuasive to skeptics, not just to supporters of the programs and policies being assessed or held accountable. (For example, skeptics are more likely to be impressed by changes in the rate of unmarried teenage childbearing than by changes in self-esteem scales.)

B. A start-up list should consist of *outcome measures about which data are relatively easy to obtain*, primarily from existing official data sources, *and to interpret*. For example, outcomes such as the appropriate receipt of special education services are not included because the data are difficult to gather for large numbers of children and hard to interpret.

C. *The distinction between outcome measures and process (or capacity) measures should be clearly maintained*. Indicators that measure processes and capacities (rather than results) should be included as a significant part of a results-based accountability effort when they are clearly related by empirical evidence to significant outcomes. (For example, early receipt of high quality prenatal care has been shown to be clearly related to positive birth outcomes; on the other hand, participation in didactic parent education classes, even when it results in increased knowledge, has not been shown to improve parenting or decrease child abuse or neglect.) When process measures (e.g., school attendance, formation of a collaborative) or capacity measures (e.g., the availability of high quality child care) are used as part of results-based accountability, the rationale for using them instead of outcome measures should be clearly understood and stated.

CHILD AND YOUTH OUTCOMES

A Core List to Serve as a Starting Point

Healthy Births

- Lower rates of low birthweight births
- Higher rates of early prenatal care
- Lower rates of births to single mothers under 18

Two-Year-Olds Immunized

Children Ready for School

- Immunizations complete
- No untreated vision or hearing problems
- School-readiness traits as identified on sample basis

Children Succeeding in Elementary, Middle, and High School

- As indicated by lower rates of school drop-out, and by
- Academic achievement measures demonstrating competency over challenging subject matter in grades 4, 8 and 12

Children and Youth Healthy, Safe, Prepared for Productive Adulthood

- Children not abused or neglected
- Children living in own family
- Children living in families with incomes over the poverty line
- Youth avoiding
  - Early unmarried childbearing
  - Substance abuse
  - Arrests for violent crime
  - Suicide
  - Homicide
  - Accidental death
  - Sexually transmitted diseases and HIV/AIDS
- Young adults in school or employed

We believe that communities beginning the process of shifting to results-based accountability should consider the full range of child and youth outcomes in their planning, although they may decide to undertake their efforts in pursuit of these outcomes sequentially.

D. *The least ambiguous available measure of an outcome should always be used* (e.g., confirmed child abuse reports are a better measure than child abuse reports, because an increase in child abuse reports could reflect a new hotline or greater community awareness, rather than an increase in the incidence of child abuse).

E. *The outcomes chosen should, to the fullest extent possible, not be subject to misuse.* In the early childhood arena, for example, a community's achievements in raising the rates of children who enter school prepared for school success can and must be measured without stigmatizing or labelling any individual child. This can be done by collecting information only about groups and/or samples of children, rather than by assessing and reporting on individually identified children.

Which of the outcome measures on this or other start-up lists will actually be selected by programs, agencies, communities, and various political jurisdictions will depend on the nature and purpose of the efforts being measured, the nature and size of the target population, and who engages in the process of selecting outcomes. In recognition of the relationship among all of the major child and youth outcomes, we believe that communities beginning the process of shifting to results-based accountability should consider the full range of child and youth outcomes in their planning, although they may decide to undertake their efforts in pursuit of these outcomes sequentially.

We expect to modify our start-up list in the future, to reflect ongoing experience by those using these measures, progress in the development of more sophisticated technology, the availability of new kinds of data, and the identification of interim indicators that could measure short-term steps toward long-term outcomes and goals.

V. New Issues Raised by the Shift to Results-Based Accountability

A. *Who decides? Who selects the outcomes to be achieved for accountability purposes?* When individuals representing diverse interests attempt to work together to identify outcomes for widespread use, the process may lead to a shared understanding of goals and the steps to reach them, but the process may also bring out differences that threaten to paralyze both the participants and the process. Tensions between "top-down" and "bottom-up" processes of selecting outcome measures are among the most difficult. On the one hand, many believe that society has so much at stake in the achievement of a core set of outcomes, that political bodies — probably at the state level — should be responsible for identifying a set of outcomes that should be achieved universally. Others believe that "outcome measures imposed from outside a community have no legitimacy in terms of a local consensus-building process ... and cannot mobilize the resources needed to achieve the results sought ..."[1]

There seems to be increasing agreement that the process of selecting outcomes for accountability purposes must have political legitimation, whether it is done by a state legislature or a local collaborative. Sid Gardner, of the Center for Collaboration for Children at California State University, Fullerton, points out that the importance of going through a consensus building process, especially in the selection of overarching goals, cannot be underestimated, because this is a political, not primarily a technical process. Charles Bruner of the Iowa Child and Family Policy Center argues that those charged with achieving the

It is clear that all of those affected by results-based accountability — as legislators representing tax payers, as providers, or as service beneficiaries or participants — must have a role in the process.

outcomes must be involved in the outcomes selection process if it is to be regarded as fair, useful, legitimate, and if it is to reflect real-life experiences.

It is clear that all of those affected by results-based accountability — as legislators representing tax payers, as providers, or as service beneficiaries or participants — must have a role in the process. All concerned will be able to work more effectively toward common goals if they are able to engage in a consensus-building process, involving both providers and recipients of services, to select the outcome measures they will use or by which they will be held accountable. Vermont, for example, selected its education outcomes by holding meetings in towns throughout the state, eliciting extensive grass-roots participation in the process.

We also believe that if results are to be used for accountability purposes, the final decisions must be made by bodies at a higher or broader level of governance than those being held accountable. Many forms of interactive consultation are possible. For example, when an official state body selects the outcomes, localities may decide or negotiate the numerical value that will represent progress in the achievement of each outcome (e.g., the rate of low birthweight will be reduced by X% each year, or racial discrepancies in low birthweight rates will be reduced by Y% each year).

B. Who is responsible for achieving the selected results? It is difficult to envision an effective use of cross-sector outcomes in the absence of a governing body representing the major agencies, institutions, and interests within a community, because no one agency can achieve most of the core outcomes on its own. Governance structures that could take responsibility for results-based accountability across programs and systems and across political jurisdictions generally do not now exist. New arrangements will have to be made so that the community can (a) agree on a set of outcomes, (b) determine how best to achieve them, and (c) measure progress in meeting them.

Once a community decides on and disseminates a set of outcomes, public awareness of children's needs will increase, and it will be easier to track progress and to marshall public support for achieving the goals. For example, if there is broad public awareness that improved school achievement has been adopted as a community goal, then parents, neighbors, and informal community institutions as well as schools and human service agencies will be stimulated to become more active and effective in contributing toward that goal.

C. What is the role of process measures in a system that places primary reliance for accountability on outcome measures? Because the present capacity to use outcome measures to judge program effectiveness is far from perfect, and because it often takes many years before outcomes improve in response to effective interventions, process measures will continue to play an important role in holding agencies, communities, and systems accountable. Existing process measures will be useful during the period of transition. Increasingly, however, new measures that are more closely related to outcomes should become available to measure initial progress toward ultimate goals, both through the measurement of interim outcomes, and by measuring the community's capacity to achieve identified long-term outcomes. In Section VI. C. on page 26, we discuss the sustained work that is now needed to produce reliable, short-term indicators.

It will be important to continually re-examine the balance between the use of process and outcome

BEST COPY AVAILABLE

The use of outcome measures that are already being collected for other (usually public) purposes has the effect of vastly reducing evaluation costs, whether measured in money, time, intrusiveness, or required expertise.

measures, so that communities and agencies can make sure they do not slip back into reliance on the input measures that results-based accountability was meant to replace.

D. Is there a role in results-based accountability for cost-savings outcomes? One outcome measure that has proven useful — even though it is a departure from child and youth outcome measures — is an indicator of cost-savings that occur as a result of the provision of improved services. Although many important savings occur in budgets and at times that are far removed from the new or improved service, in instances when the savings can be directly attributed to the intervention, the evidence of cost-effectiveness can be dramatic and persuasive. For example, high quality prenatal care and supports have been shown to save several times their cost in neo-natal intensive care. We advocate using cost-savings measures as a supplement to individual outcome measures rather than as a substitute.

E. What is the relationship between results-based accountability and evaluation research? The role of the evaluator and of evaluation research would undergo significant change in a world in which results-based accountability were the norm and not the exception and in which outcomes have become an important part of the everyday way that people think about programs, policies, and reform initiatives. This is especially true with respect to the evaluation of complex, multi-system, multi-disciplinary interventions that are expected to impact children, families, institutions, and whole communities.

First, when desired outcomes are specified by a community or state as part of its resource allocation or reform efforts, it is reasonable to base the impact evaluation of the program or community initiative on those outcomes. Then the evaluator would no longer assume the responsibility for selecting (or negotiating with program people to select) the outcomes on which the effort will be evaluated. In addition, since the outcome measures used for accountability purposes tend to be ones which are already being collected for other purposes, usually by official agencies (e.g., rates of low birthweight, immunization, arrests, school completion, employment, etc.), they are more likely to be widely recognized for their "real world" significance than are measures that show performance on scales constructed by researchers primarily for research purposes. The use of outcome measures that are already being collected for other (usually public) purposes has the effect of vastly reducing evaluation costs, whether measured in money, time, intrusiveness, or required expertise. Outcome measurement would then no longer rely solely on an expert intermediary, on whom program managers, funders and communities are dependent for information as to whether the program is succeeding. The result could be a demystification and democratization of the outcomes evaluation process, encouragement of citizen monitoring of the welfare of children and families, greater access to outcome evaluation findings, and an increase in usable knowledge.

Second, when the impact of an initiative on selected results is measured for purposes of accountability, it is possible to draw a greater distinction between the two evaluation functions of assessing results (i.e., documenting the extent to which agreed-upon results were achieved), and of attributing causal connections (i.e., making judgments about the process by which those results were obtained). If evaluators were free to focus more on the 'why' and 'how' (as opposed to the 'whether'), they could position themselves to better obtain an accurate and nuanced understanding of the nature of interventions, and to provide an accurate description of the interventions,

The new evaluator could provide feed-back to practitioners for mid-course corrections, enhancing their capacity to reflect and do on-the-spot experimentation.

because they would not have to maintain the traditional distance between evaluator and provider that has been required to provide the evaluator with an "outsider's" credibility.

Evaluators who are no longer responsible for answering whether the initiative worked, but can focus on how and why it is working, can move toward an explicit stance of helping practitioners to become more reflective, to extract theory from their daily experience, to learn contemporaneously from their experience, and thereby to improve their practice and their intervention. The new evaluator could provide feed-back to practitioners for mid-course corrections, enhancing their capacity to reflect and do on-the-spot experimentation. Evaluators could help practitioners to think more carefully about both the theory and practice of what they're doing. They could develop a new evaluation culture that would lead to a greater understanding of successful interventions and how results are related to interventions. Evaluators would become collaborators of reflective practitioners in the interest of program improvement, and of helping others to learn from proven and promising interventions.

VI. Next Steps

A. Continuing work on making a start-up list more useful. We expect to continue work on helping communities and programs to implement results-based accountability. We expect that as communities and agencies begin using results-based accountability tools, they will need additional information and advice on such matters as:

- how to get the necessary information,
- which measures are most appropriate with what size populations, in which specific circumstances, and over what period of time,
- improving the tools that will make it possible to measure outcomes in useful units (such as school catchment areas, neighborhoods, census tracts, zip codes, etc.),
- how changes in outcomes should be understood in relation to background factors (such as how to account for changes in outcomes that might be attributed to the closing of a factory or a sudden influx of new immigrants),
- how to select appropriate comparisons against which to measure outcomes, including the use of comparisons over time, comparisons with groups outside the community, and comparisons among various racial and income groups,
- how to avoid misuse of the chosen outcome indicators,
- how long it takes before it is reasonable to expect change in a given measure, and the magnitude of change that can be expected in relation to the size and nature of the problem and of the population,
- understanding options with regard to attaching rewards and penalties to the achievement of agreed-upon results, and
- identification of reliable short-term indicators that could measure small steps toward ultimate goals.

B. New work to increase the significance of what is being measured. Several of the outcome measures we recommend are not a perfect match for the outcomes we are recommending that communities get information about. For example, the indicator "Chil-

BEST COPY AVAILABLE

Sustained work is needed to produce reliable, short-term indicators that could measure initial progress toward ultimate goals.

dren living in their own family" is an imprecise measure of the outcome we are really after, which is "Children living safely in their own homes or in stable out-of-home care." We will continue to seek more reliable approximations, such as "Children who have experienced multiple out-of-home placements." The school-readiness outcome poses special measurement problems, which we expect to work on with communities.

Work should also proceed to identify new ways of achieving a closer match between outcome measures and long-term goals, by measuring additional widely acceptable indicators of positive well-being, such as responsible citizenship, healthy and nurturant family functioning, and healthy parent-child interactions. Consideration should be given to whether a major investment, on the order of the New Standards Project,* is called for to achieve this purpose.

C. New work on identifying intermediate indicators. The many funders, practitioners, managers, and systems reformers who are adopting an outcomes orientation increasingly recognize that they must obtain information about results during time periods that are meaningful to politicians, and that means relatively quickly — often long before a program is "proud," and long before it has had a chance to make an impact on rates of school readiness, child abuse, school success, teenage pregnancy or violence. Sustained work is needed to produce reliable, short-term indicators that could measure initial progress toward ultimate goals.

There are two primary ways to assess progress toward the achievement of agreed-upon outcomes over the short-term: One is by measuring interim outcomes, and the other is by measuring the community's capacity to achieve the identified long-term outcomes.

New work on measuring interim outcomes. More work is needed to test hypothesized connections between short-term and long-term outcomes, although some connections seem to be fairly well established. For example, an improvement in school attendance rates is thought to predict an improvement in school achievement rates. In a current evaluation of family preservation, such indicators as parent's sense of mastery, social support, and parental substance abuse are used as interim measures to predict such long-term outcomes as the recurrence of abuse or neglect. Such process measures as extent of participation, client satisfaction, and an increased sense of community may also come to be seen as reliable precursors of improved results.

New work on identifying indicators of community capacity. The biggest obstacle to identifying indicators of a community's capacity to reach long-term outcomes is that little is known about the precise relationships between the components of capacity and outcomes. The identification of indicators of community capacity that could guide communities in their efforts to reach long-term outcomes depends on having or developing reliable theories — or at least sturdy hypotheses — about the relationship between interventions and results, and about the constellation of conditions and interventions that will lead to good results. For example, when a community is developing strategies to reduce rates of low weight births, can a funder or governing entity say with confidence that the "enabling conditions" to reach that outcome are the capacity to provide high quality, responsive prenatal care, nutrition services, and family support to pregnant women, and family planning services to all persons of child-bearing age? If the outcome in

M[illegible] ed before [illegible] of capacity, can reasonably be related to long-term outcomes.

question were school readiness, is it possible to say that higher rates of school-readiness will be achieved if the community develops its capacity to provide high quality child health care, family support services, child care, Head Start, nutrition services, etc.?

There is little consensus on the constellation of services and supports that must exist in a community that can be reasonably assumed to constitute the preconditions for improved results, especially since many interventions rely on their interaction with other interventions for their effectiveness. For example, a high quality after-school program is probably effective only in combination with many other services and supports that could together make a difference. Furthermore, it is not enough to know of the simple existence of certain services, one would have to take their quality and other attributes into account. The distinction between service **availability** and the **nature and quality of the service** in accounting for improved results is absolutely crucial — and requires much greater understanding than now exists. Ultimately, theoretical understanding might even allow one to take account of certain preconditions, such as an incentive structure to support desirable services, the availability of certain kinds of training and professional development activities, or the provisions made to respond in a culturally sensitive way to a variety of populations.

In some areas, existing empirical evidence permits clear connections to be made between inputs and results. For example, the work of Joyce Epstein and colleagues at Johns Hopkins University[7] has shown that schools can enable more families to become and stay involved in their children's education, and that parent assistance at home has important consequences for children's achievement, attendance, school adaptability, and classroom behavior. In the main, however, much systematic empirical work is required before **short-run measures of capacity** can reasonably be related to long-term outcomes. For example, the availability of prenatal care and health insurance are surely related to improved birth outcomes, but whether the relationship is strong enough, and whether their effect on outcomes is actually a function of their availability (rather than of their quality), so that their **availability** can be used as an interim indicator, is an open question.

Little is also known, though much is hypothesized, about the connection between indicators of community-level change, and outcomes for children and youth. It is reasonable to assume that a neighborhood that is building an infrastructure of informal supports and economic opportunity is likely to lead to better outcomes for children, but there is little agreement on ways to measure community building and economic opportunity, and little understanding of the precise connections.

In primary and secondary education, the response to demands for interim measures has taken the form of what have come to be known as "Opportunity to Learn Standards," or "School Delivery Standards." The rationale for these standards is that it would be unreasonable to expect students to perform at world class levels in science if the school they go to has no chemistry or biology labs, and that the presence or absence of chemistry and biology labs would be something the community could look at to assess its progress toward desirable results, more simply and at an earlier time than measurable changes in achievement could be expected to occur.

The downside of the extensive application of capacity measures to assess progress toward long-term outcomes, of course, is how closely they could come to resemble the input regulation that results-based accountability was meant to replace.

BEST COPY AVAILABLE

Agreement on outcome measures, however, is just the first step in installing a community-wide approach to service design, delivery, and accountability that is rooted in results.

VII. Conclusion

This paper has discussed the case for results-based accountability, and has proposed a start-up list of outcome measures that could be used by communities as they begin to implement this approach. Agreement on outcome measures, however, is just the first step in installing a community-wide approach to service design, delivery, and accountability that is rooted in results. The key next step is for the community to use results to develop an effective program agenda. That step, in turn, must be complemented by attention to the collaborative governance strategy that maintains the results-based accountability; by the financial strategy for funding the program agenda; and by the professional development and training strategy that can help build frontline and administrative staff skills to support this new approach. Those topics are the subject of future materials from the Improved Outcomes for Children Project.

Notes

1. Pittman, K. and S. Zeldin. *Evaluating Youth Development in Programs and Communities: The Need for an Integrated Framework and Collaborative Strategy.* Washington, D.C.: Center for Youth Development and Policy Research: 1992.

2. Especially when it comes to adolescents, many communities and many programs will be working to achieve goals that go well beyond what they are able to measure. We believe that a programmatic commitment to achieving such goals as higher rates of youth who have a sense of self-worth, a sense of mastery, a sense of belonging, and a sense of personal efficacy, is not incompatible with accountability systems that rely on outcomes that are more easily measured and that may be more persuasive in a public policy context because their harm is widely agreed upon (e.g., reducing the rate of school drop out, teenage pregnancy, and juvenile crime).

There are many who believe, with Albert Shanker, President of the American Federation of Teachers, that the opposition to Outcome Based Education is the result of over-reaching. Shanker cites the following examples of outcomes chosen by the States of Pennsylvania and Ohio which he believes were too ambitious and too ambiguous to common widespread acceptance:

- ▲ All students demonstrate a comprehensive understanding of families, their historical development, and the cultural, economic, social, and political factors affecting them.
- ▲ All students learn to function as responsible family members.
- ▲ All students maintain physical, emotional, and social well-being.
- ▲ All students learn to establish priorities to balance multiple life roles.

3. This list is based on our work with site partners in the National Alliance for Restructuring Education, the earlier work of the Joining Forces effort of 1990-92, and on a survey by the Center for the Study of Social Policy of outcomes measures in current use by cross-systems community reform efforts and advocacy groups, including Kids Count and Children Now.

4. Obviously our focus on children and youth is only one of the many possible choices in the shift to outcomes accountability. It would be theoretically possible to expand one's focus to include family and community outcomes. Whether a given indicator measures an outcome, an input, or a crucial background factor that must be considered in interpreting outcomes depends on the goals of the effort. For example, the availability of affordable housing could be an outcome of a housing program, an input in a community development program, or a background factor in assessing a children's intitiative.

5. Young, Gardner, and Coley, Chapter 2.

6. The New Standards Project is a consortium of states and cities developing high academic achievement standards, and new valid, reliable assessment instruments to measure them.

7. Epstein, Joyce L. School and Family Partnerships. In: *Encyclopedia of Educational Research, Sixth Edition.* M. Alkin (Ed.) NY: Macmillan: 1992.

MPR Reference No.: 8113-110

COMMUNITY-LEVEL MEASURES FOR ASSESSING THE STATUS OF CHILDREN AND FAMILIES

December 1994

Authors:

Craig Thornton
John Love
Alicia Meckstroth

with the collaboration of
Brett Brown, George Carcagno, Mary J. Cuiro, Barbara Devaney, Christine Ross, Marie McCormick

Mathematica Policy Research, Inc.
P.O. Box 2393
Princeton, N.J. 08543-2393
(609) 799-3535

I. MEASURING THE STATUS OF CHILDREN AND FAMILIES[1]

> When you can measure what you are speaking about, and express it in numbers, you know something about it; but when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meager and unsatisfactory kind: it may be the beginning of knowledge, but you have scarcely, in your thoughts, advanced to the stage of science.
>
> William Thomson, Lord Kelvin
> *Popular Lectures and Addresses*

> Grown-ups love figures. When you tell them that you have made a new friend, they never ask any questions about essential matters. They never say to you, "What does his voice sound like? What games does he love best? Does he collect butterflies?" Instead, they demand: "How old is he? How many brothers has he? How much money does his father make?" Only from these figures do they think they have learned anything about him.
>
> Antoine de Saint-Exupéry
> *The Little Prince*

As communities across the country continue to grapple with ways of improving the lives of children and families, their desire for community-level numerical measures has increased. These measures provide a basis for understanding the problems children and families face and for assessing efforts to improve their circumstances. Communities want to know such things as how many mothers obtain adequate prenatal care, how many babies are born healthy, the number of two-year-olds who are fully immunized, whether children enter school ready to learn, whether they subsequently proceed through school and graduate, the extent of child abuse and neglect in the community, and the fraction of children who are involved in violent crime. By summarizing these and other key aspects of families' experiences, communitywide measures provide the overview planners and administrators

[1]In addition to providing the funding for this paper, The Pew Charitable Trusts, along with the Center for Assessment and Policy Development (CAPD), helped to guide our thinking on these issues throughout the design phase of The Children's Initiative evaluation. In particular, we are indebted to Patricia Patrizi of the Trusts and Susan Stephens of CAPD for their support and encouragement. The introductory quotations were first juxtaposed by Gardiner (1970).

require in order to understand the characteristics of the families in a community, develop programs and policies to address problems, and assess the effectiveness of these programs and policies.

Communitywide measures provide an important perspective but, as summaries, they capture only a few aspects of what it is like for families to raise children in a community. Furthermore, these broad measures tend to mask variation among families and interactions between characteristics. For example, a measure may show that 20 percent of the families in a community are poor, without indicating the extent to which their poverty is transitory or prolonged, the degree to which they interact to support one another, or the variation in employment prospects among families.

This gap between the measures and the reality they seek to describe challenges analysts to develop an appropriate set of measures and the means to interpret them. No single measure can adequately describe a community; only a broad and diverse set of measures can summarize the factors and characteristics that determine the well-being of residents. At the same time, this set must not be so large that it fails to provide an understandable indicator of community status or so large that the required data cannot be easily collected. The information that results from community measures must also be presented in a way that effectively summarizes the status of children and families in the community without overstating the ability of the summary measures to represent something as complex as a community. A balanced interpretation of this information should reflect the strengths and weaknesses of the specific measures and draw on information obtained through direct observation in the community.

This paper provides a step toward addressing this challenge by proposing a set of measures that describe the general status of children and families in a community. Specifically, this set captures the following six aspects of child and family well-being:

1. Child and family health
2. Family functioning
3. Child development

4. School performance

5. Youth maturation and social integration

6. Overall socioeconomic environment

In presenting the community measures, we begin with a review of the criteria used to select measures and an overview of the specific measures. In subsequent chapters, we discuss each of the six domains, including the specific measures, possible data sources, and measurement issues. We also discuss empirical evidence showing that a particular measure may be changed by policy interventions.

Four general recommendations emerge from our review. First, the process of selecting the specific measures to collect must be consistent with the intended uses of those measures. When the measures are intended as a basis for developing policy or for understanding the current status of children and families in a community, then communities should use as many of the measures included in this report as possible. When the measures are intended to evaluate program performance and to represent shared community goals for system change, then only a community can make the ultimate choice of measures. Externally imposed measures are likely to lack sufficient standing in the community to serve as viable goals for evaluating a complex and potentially disorienting process like reforming the system of services for children and families. Thus, efforts at system reform can draw on the menu of measures provided in this report, but must ultimately work with the community to select the specific goals and measures that will be used to guide and evaluate the reform.

Second, measurement of many aspects of child and family well-being remains unsettled. This is particularly true in the domains of family functioning and child development where there are many competing measures and few clearly established benchmarks. Work is underway to improve these measures and the next decade should see substantial improvements in measurement technology. In the meantime, we have identified a representative set of measures that have proven to be useful for measuring the key aspects of child and family well-being. Communities should therefore view this

set of measures as a work in progress and may find alternative measures that more accurately capture their specific goals and objectives.

Third, communities interested in comprehensive systems reform should collect information from all six domains. Broadly designed efforts to improve the well-being of children and families will require a similarly broad set of outcome measures. Such an array of measures will help communities ensure that reform efforts take a comprehensive view of family well-being and thereby avoid the narrow focus that can come from looking only at a specific domain like health of school performance.

Fourth, communities will need to conduct surveys in order to develop a comprehensive profile of their children and families. While official records systems can provide data about many aspects of child and family well-being, many aspects of family life lie far outside the official records systems and can only be assessed through surveys. In addition, surveys provide a means for collecting information about people who are not currently participating in any formal community program or activity. For example, surveys would enable a community to measure the development of children who are not yet in school and the characteristics of families that are largely isolated from the community. Finally, surveys provide a means for communities to assess the extent to which community residents know about available services and are satisfied with those services that are provided.

A. CRITERIA FOR SELECTING MEASURES

Our primary criterion for selecting measures was that they yield useful data for communities to improve the lives of children and families. Specifically, we looked for measures with the following attributes:

- ***Policy Relevance***. The measure captures an aspect of children's and families' lives that can be influenced by policy or that affects the development and implementation of policy.
- ***Feasibility***. The measure uses data (or data collection methods) available to local communities.

- ***Basis for Comparison***. Communities can obtain data about the measure for national or other relevant samples which provide a frame of reference for interpreting local data on the measure.

The most important criterion was that the measures be relevant for shaping policies. Community resources are too scarce to waste on collecting and analyzing community-level measures that are irrelevant to policy formation. In searching for policy-relevant measures, we first focused on ones that could be used to evaluate communitywide initiatives to change the service system.[2] This process led us to identify measures for which there was evidence showing that program or policy interventions could change the measures. As we progressed, we also identified measures, such as crime rates and infant mortality, that are of special interest to policymakers, despite the fact that recent policy efforts to change these measures have been largely unsuccessful. We added these measures to our list because, despite their imperviousness to change, they are important aspects of child and family well-being and will be of continuing interest to communities.

In assessing feasibility, we looked for communitywide measures that could be developed using information communities were already collecting. We also looked for measures that reflect the status of all children and families in a community, rather than specific subgroups, such as families receiving Aid to Families with Dependent Children (AFDC). We did so because of an overriding interest in the community as a whole, regardless of current levels of participation in various programs or organizations. Data for specific subpopulations of the community may misrepresent the status of all families and provide a poor basis for policy development. Furthermore, communities are often interested in the extent to which families participate in specific activities (such as how often pregnant woman receive adequate prenatal care). Such participation rates can only be estimated by looking at all eligible persons, rather than only at those using a particular service.

---

[2]In fact, we began to identify community-level measures of child and family well-being in order to evaluate The Children's Initiative. Carcagno et al. (1993) provide an overview of the preliminary evaluation design, including the ways in which many of the measures reported in this paper would have been used to evaluate the Initiative's efforts to improve the lives of children and families.

A number of data sources typically maintained by communities provide a comprehensive view of children and families. These sources include birth certificates, death certificates, school registration forms, public health surveillance data, child abuse reports, school records, police crime reports, and census data. However, efforts to develop the full range of measures identified in this paper will require new data collection efforts, including community surveys. In particular, surveys will be required to measure program participation rates (for example, the fraction of eligible families using a family support center) and the more private aspects of family activities and characteristics (for example, family functioning and isolation).

The use of surveys represents the largest change for most communities. Nevertheless, many communities currently use surveys to measure characteristics of their populations. For example, 43 states and 13 large cities now conduct surveys of students in grades 9 through 12, as adjuncts to the national Youth Risk Behavior Surveillance System conducted by the Centers for Disease Control and Prevention (CDC). Communities may also use specific surveys to assess community needs or to measure changes in community outcomes following initiatives to improve child and family well-being.

In identifying possible survey measures, we sought to select measures that are valid, reliable, practical to administer (typically this meant that questions could be asked over the telephone), not too time-consuming, culturally and linguistically appropriate for a wide variety of children and families, and developed with an appropriate normative group. We also looked for measures that have been applied in large-scale data collections (to demonstrate usefulness and provide comparison data), used in evaluation research, and shown to detect the effects of program interventions on children and families.[3]

Finally, we looked for measures that communities could augment with interpretive information. By themselves, many of the measures are difficult to understand without some frame of reference. Over time, as a community develops a series of annual estimates, the observed trends will provide this

[3]Appendix A describes how to obtain additional information about the various surveys mentioned in this report.

frame of reference. In addition, national estimates can provide a useful reference point, particularly for general trends. For example, a community trying to interpret a rising level of youth violence should consider previous local levels of violence and changes at the national level.

In addition to the three criteria for selecting specific measures, we considered the overall rationale communities would use to justify the considerable effort required to collect outcome measures. Communities must balance the value of the information gained from collecting these measures with the costs of doing so. The costs are often obvious, consisting of staff time and other resources required to assemble data from existing sources or to conduct a community survey. Benefits, although less obvious, can also be substantial. In particular, the measures can provide communities with a basis for targeting their resources and monitoring the effectiveness of their programs. Failure to collect outcome data may result in missed opportunities to help or, even worse, in misdirected or squandered resources. Furthermore, clear evidence of improving outcomes pr program success is essential to building support for policies, just as evidence of their failure weakens public support.

The growing demand for community-level measures suggests that, in many cases, communities feel that the benefits outweigh the costs. Clearly, efforts to institute results-based accountability require community-level measures that can serve as specific goals for programs seeking to improve the lives of children and families (Schorr 1994). Also, the many communities that are initiating new efforts to improve their systems for addressing the needs of children and families will require community measures to target and evaluate those initiatives. In late 1993, the Families and Work Institute (1993) identified 8 national initiatives and 43 state and local initiatives to improve outcomes for children and families. State and local governments also need community-level measures about children and families in order to set priorities, target resources, and evaluate programs. Schorr (1994) and her colleagues at the Harvard Project on Effective Services mention several specific benefits of collecting information on community-level outcomes:

- Measurable outcomes provide a foundation for a system of results-based accountability, which in turn can replace or diminish the need for centralized bureaucratic micromanagement.

- Community outcome measures (particularly time trends) can assure funders and the public that social investments are producing the desired results.

- Well-defined outcome measures help foster agreement among community agencies on cross-system collaboration.

- Outcome measures can help minimize efforts that do not contribute to improved results, by directing attention away from activities that do not affect the measures and toward activities that do.

- Outcomes play a key role in evaluations of program effectiveness.

- Outcome measures help to avoid inappropriate expectations, by providing clear program goals that can be used to assess whether a program's resources will be sufficient to meet these goals.

In the end, the final decision to collect community-level outcome measures must rest with the community. We have proposed a list of feasible measures, but communities must select the ones that best represent the goals they seek to achieve. Communities can use the measures listed here to provide a framework for deciding on community goals and targets. However, the measures will lack sufficient force as goals for system change or program evaluation if they are not selected to represent the interests of the community. In making any decisions about specific measures, however, communities must be mindful of the need for comprehensiveness. While communities may decide not to pursue all the measures in each of the domains, it is essential to pursue at least some measures from each domain. Child and family well-being is multidimensional and only by producing a comprehensive set of measures will the community be able to judge its progress toward improving the lives of children and families.

B. OVERVIEW OF THE SELECTED MEASURES

Overall, we identified more than 60 community-level measures (Table I.1). Measures that can be obtained from the records systems typically maintained by communities are noted with an asterisk

TABLE I.1

CHILD AND FAMILY OUTCOMES

Child and Family Health		Family Functioning	Child Development	School Performance	Youth Maturation and Social Integration
Prenatal Care	**Utilization**	**Intellectual Stimulation**	**Participation in Early Education and Care**	**Remediation**	**Productivity**
Adequacy of prenatal care*	Children receiving a regular well-child examination	Time spent doing intellectually challenging activities and using intellectually challenging educational materials	Enrollments in early education and care programs*	Developmental delays at kindergarten entry*	Productive involvement by youths in society
Initiation of prenatal care visit*	Use by children of emergency room for nonemergency conditions	Educational materials in the home	**Language Development**	Assignments to special education programs*	**Antisocial or Violent Behavior**
Women with no prenatal care visits*	Infant feeding patterns	Regulation of children's television viewing	Level of receptive, expressive, and productive language	**School Attendance**	Youth violent crimes*
Percent of women who smoke during pregnancy	Rates of completed immunizations	**Emotional Supportiveness**		Average days absent*	Fatalities to teenagers from violent crime*
Alcohol use during pregnancy	Dental checkups for children	Level of family warmth and responsivity	**School-Related Knowledge and Skills**	**Grade Progression**	Teen suicides*
WIC enrollments of eligible pregnant women	Hospitalizations for preventable diseases	Discipline style	Motor development and coordination	Grade retention*	**Adolescent Well-Being**
Appropriate referrals to level III hospitals for high-risk pregnancies	Preventable complications of diabetes mellitus, sickle cell anemia, seizure disorder	**Father Involvement and Support**	**Social Well-Being**	School dropout rates*	Births to teenagers*
Maternal Health	Use of early-intervention programs by high-risk children	Involvement of father in children's daily lives	Cooperation, assertion, responsibility, and degree of self-control	Percentage who graduate high school on time*	Incidence of sexually transmitted diseases*
Self-reported health and functional status	Detection and treatment of vision and hearing problems	Financial support from noncustodial parents	**Behavior Problems**	**School Achievement**	Incidence of teenage drug and alcohol use and abuse
Use of drugs, including tobacco and alcohol		**Child Maltreatment**	Level of headstrong, antisocial, anxious, depressed, and overly dependent behavior	Basic skills and academic achievement	Teenage accidental deaths*
Nutritional status		Substantiated reports of child abuse and neglect*			
Regular source of women's health care		Parental violence directed toward children			
Use of family planning services					
Second births to adolescents*					
Interpregnancy intervals > 18 months*					

BEST COPY AVAILABLE

TABLE 1.1 *(continued)*

Child and Family Health		Family Functioning	Child Development	School Performance	Youth Maturation and Social Integration
		Depression			
Birth Outcomes	**Incidence of Preventable Diseases and Disabilities**	**Adult Conflict and Violence**			
Incidence of low-birthweight babies*	Postneonatal mortality rates by race/ethnicity*	Frequency and severity of family violence			
Incidence of very low-birthweight babies*	Preventable infant mortality*	Spouse/partner abuse			
Gestational age*	Cases of diseases for which immunization is available*				
Infant and neonatal* mortality rates by race/ethnicity		**Daily Stress**			
	Use of safety precautions to reduce accidents and unintentional injury	Daily stress related to family, friends, and money			
Access					
Health insurance coverage for mothers and children	**Overall Health**	**Family Isolation/ Connectedness**			
Regular source of routine medical care among children	Parent perceptions of child health status	Community involvement			
Participation in Medicaid by eligible women and children	Children with functional limitations due to health conditions	Use of family, friends, books, teachers, and others to support child rearing			
	Children with morbidities or serious morbidities				
	Children within age-appropriate height and weight norms	**Family Stability**			
		Divorce rates			
		Children in out-of-home placements			
		Parental employment patterns			

*These outcomes can be measured using records data typically maintained by communities.

in the table. The following chapters provide additional information about the measures and evidence of their susceptibility to policy interventions.

Of course, the selection of a specific set of outcome measures is only the first step in using them. Communities must decide what to make of changes in the measures over time and how to use the measures to evaluate success. This is a difficult challenge because of the dynamic nature of communities and the many factors that can influence the outcomes listed in Table I.1. In particular, it is often impossible to know how much a change in outcomes reflects the effect of a specific community intervention, the effect of another intervention or a change in community characteristics, or more-or-less random fluctuation in the outcome measure over time. As Hollister and Hill (1994) point out, there are no evaluation methods currently available that will estimate community-level impacts with a known degree of statistical precision. As a result, communities will be left with substantial uncertainty in interpreting patterns of outcome measures, particularly if they want to tie outcome changes to specific policy actions.

Despite the uncertainty in any impact estimates, the outcome measures provide an index of the well-being of children and families that is likely to be useful to communities. As noted in the introduction to this paper, such measures provide a means for understanding the community and for setting priorities. Furthermore, communities can use several approaches to develop a general sense of how well current programs (or a new initiative) are doing. These approaches include:

- Assess local trends in outcome measures to determine whether changes are in the desired direction (for example, whether high school graduation rates are rising over time).
- Compare local trends with trends in the nation or other communities (for example, whether the rate of low birthweight in a community is decreasing faster than the change observed for the nation as a whole or for other similar communities).
- Compare measures for the community with specific absolute standards (for example, whether there are any cases of measles or whether 90 percent of pregnant women receive adequate prenatal care, as specified in the nation's health care goals, *Healthy People 2000*).

- Look at intermediate variables, such as service-use patterns, that may predict long-term changes in key outcome variables (for example, information about immunization rates can be collected in the short term and should predict longer-term changes in the incidence of certain communicable diseases).

- Set realistic goals that recognize it takes time to affect community conditions that have come about over a long time.

None of these strategies offers a precise method for interpreting changes in outcome measures. In all cases, analysts will have some level of uncertainty about what a measure means and how to interpret change in that measure over time. However, these strategies provide a basis for systematically considering the measures and thinking about what they mean for a community.

It is useful to note that our list excludes many important community-level measures. Specifically, we have omitted many measures that pertain primarily to adults, including adult crime rates, overall patterns of substance abuse, and local economic conditions. The list also excludes the types of detailed information collected by direct observation of community activities. For example, it does not include observations about the extent to which health care providers accept Medicaid, the ease of access to key community institutions, and the degree of cooperation between levels of government and community residents. These other measures provide a context for interpreting the measures in our list that pertain to children and families. A full interpretation of the outcome measures listed in Table I.1 will require a sense of these other community characteristics.

TABLE II.1

HEALTH OUTCOMES AND MEASURES: PRENATAL CARE UTILIZATION AND PRENATAL HEALTH BEHAVIORS

Intermediate Term Outcomes Expected	Long-Term Outcomes Expected	Measures Recommended	Data Source	Evidence of Sensitivity to Community Interventions	Strengths [Liabilities] of the Measure	Policy Relevance
Increase in the adequacy of prenatal care	Increase in the adequacy of prenatal care	Kessner Index (Kessner et al. 1973)	Birth certificate	Evidence that community programs increase use of prenatal care and percentage receiving early prenatal care (Korenbrot et al. 1993; Institute of Medicine 1988; Miller et al. 1989; Strobino et al. 1986; Peoples and Siegel 1983; Peoples et al. 1984).	Birth certificate data readily available. Generally good agreement between birth certificate and survey data on first trimester care. [Some question of data quality agreement relating to components of the indexes--gestational age and number of prenatal care visits.] (Schoendorf et al. 1993; Fingerhut and Kleinman 1985)	Improved birth outcomes Reduced health care and other costs
		Kotelchuck Index (Kotelchuck 1994)	Birth certificate			
		Proportion receiving prenatal care in first trimester	Birth certificate			
		Proportion with no prenatal care	Birth certificate			
	Decreased fraction of women smoking during pregnancy	Proportion who smoked during pregnancy and how many cigarettes per day	Birth certificate	Home-visiting program for high-risk primiparas showed reduction in smoking (Olds et al. 1986a); education efforts can obtain modest reductions in cigarette smoking among pregnant women (Windsor et al. 1993a, 1993b).	Data on pregnancy risk factors from 1989 revision to the birth certificate useful for analyses of public health initiatives (Centers for Disease Control 1992) [Pregnancy risk factors--smoking and alcohol use--may be underreported on the birth certificate.]	Cost benefit ratios of a smoking cessation program for pregnant women ranged from $1:$6.72 to $1:$7.18 (Windsor et al. 1993a, 1993b).
	Decreased fraction of women using alcohol during pregnancy	Proportion who drank during each trimester and number of drinks per day or week	Birth certificate	Educational programs may potentially reduce alcohol consumption among pregnant women (Schorling 1993).	[Pregnancy risk factors--smoking and alcohol use--may be underreported on the birth certificate.]	Increased newborn birthweight
Increase in WIC enrollments of eligible pregnant women	Increase in WIC enrollments of eligible pregnant women	Proportion of eligible women who participated in WIC during pregnancy	Survey, program records	Prenatal WIC participation is higher for women with higher levels of prenatal care (Devaney et al. 1990).	[Need to rely on recall of program participation or on WIC program records]	Improved birth outcomes and lower health care costs
Increase in appropriate referrals to level III hospitals for high risk pregnancies	Increase in appropriate referrals to level III hospitals for high-risk pregnancies	Proportion of high risk pregnancies at level III hospitals	Birth certificate	Tertiary care effective when complications present (McCormick et al. 1985).	Information on hospital of birth readily available from birth certificate and reliable	Improved neonatal care and lower mortality for high risk births

TABLE II.2

HEALTH OUTCOMES AND MEASURES:
MATERNAL HEALTH STATUS

Intermediate-Term Outcomes Expected	Long-Term Outcomes Expected	Measures Recommended	Data Source	Evidence of Sensitivity to Community Interventions	Strengths [Liabilities] of the Measure	Policy Relevance
Increase in proportion of mothers who report improvements in six health concept areas: physical functioning, role functioning, social functioning, mental health, health perceptions, and pain	Continued increase in proportion of mothers who report improvements in six health concept areas: physical functioning, role functioning, social functioning, mental health, health perceptions, and pain	Medical Outcome Study (MOS) short-form General Health Survey (Stewart et al. 1988).	Survey	Persons without health insurance had significantly lower levels of subjective health status, adjusting for demographics, income, and medical conditions (Franks et al. 1993).	Established measure with high internal consistency and concurrent validity. The Center for Epidemiologic Studies Depressed (CES-D) scale may be used in place of Medical Outcomes Study mental health subscale.	Improved mother-child relationship and child functioning Improved birth outcomes and child health; healthier mothers
	Decrease in proportion of mothers who smoke cigarettes	Proportion who smoked in previous month and number of cigarettes per day	Survey	Office-based interventions educating parents about the damages of passive smoke inhalation may be effective (Kligman and Narce-Valente 1990).	Short, reliable questions from the National Health Interview Survey (NHIS)	Decrease risks to children of passive smoke inhalation and models of adverse health behavior
Increased use of regular source of gynecologic care	Increased use of regular source of gynecologic care	Proportion with gynecologic exam in past 12 months	Survey	None identified; however, indirect evidence has shown that lack of health insurance is associated with reduced access to medical care (Kleinman et al. 1981; Newacheck 1988; Freeman et al. 1990). Also, persons without insurance receive fewer health care services (Braveman et al. 1991), and community programs can increase use of prenatal care and increase percentage receiving early pre-natal care (Korenbrot, et al. 1993; Institute of Medicine, 1988a; Miller et al. 1989; Strobino et al. 1986; Peoples and Siegel 1983; Peoples et al. 1984).	Short, reliable questions from the NHIS	Early detection of problems and improved maternal health

TABLE II.2 *(continued)*

Intermediate-Term Outcomes Expected	Long-Term Outcomes Expected	Measures Recommended	Data Source	Evidence of Sensitivity to Community Interventions	Strengths [Liabilities] of the Measure	Policy Relevance
Increased use of family planning services	Increased use of family planning services	Proportion who used family planning services in order to prevent a pregnancy	Survey	State media campaign found to affect knowledge, attitudes, and birth control behavior (Sultz et al. 1989)	Short, reliable questions from the NHIS	Reductions in unwanted pregnancy
	Decrease in second births to adolescents	Second birth rates to adolescents	Birth certificate	Intervention for teen moms had no impact (Maynard 1993). Home-visiting program found to decrease second births to teenagers and increase birth interval (Olds et al. 1988). Health care program for first-time adolescent mothers found to decrease incidence of second births (O'Sullivan and Jacobsen 1992).	Birth order data from birth certificate are highly reliable.	Reduced adolescent birth rates and lower welfare costs
	Increase in birth interval	Proportion with interpregnancy intervals > 18 months	Birth certificate		Birth certificate data on pregnancy history have high levels of agreement with survey data.	Improved birth outcomes

TABLE II.3

HEALTH OUTCOMES AND MEASURES
BIRTH OUTCOMES

Intermediate-Term Outcomes Expected	Long-Term Outcomes Expected	Measures Recommended	Data Source	Evidence of Sensitivity to Community Interventions	Strengths [Liabilities] of the Measure	Policy Relevance
	Decrease in incidence of low birthweight babies	Proportion of newborns with low birthweight	Birth certificate	Demonstration programs, nutrition programs, and other Maternal and Child Health programs found to reduce the percentage of low-birthweight and very-low-birthweight births (Institute of Medicine 1985; Devaney 1992). High-risk subgroups benefit from comprehensive prenatal interventions (McLaughlin et al. 1992; Olds et al. 1986a).	Birthweight data on birth certificate are highly reliable.	Lower infant mortality rates and reduced child morbidity
	Decrease in incidence of very low birthweight babies	Proportion of newborns with very low birthweight	Birth certificate			
	Increase in gestational age	Weeks gestation	Birth certificate	Mixed evidence on impacts of preterm labor prevention programs on gestational age and rates of preterm birth (Main et al. 1985; Herron et al. 1982)	[Gestational age data from the birth certificate have low levels of agreement with comparable survey data.]	Reduced prematurity and lower infant mortality and child morbidity. Reduced health care costs.
	Decrease in infant and neonatal mortality rates or in race/ethnicity differential in mortality rates	Infant and neonatal mortality rates for all children and by race/ethnicity	Linked birth/infant death records	Effective medical care largely responsible for the long-term decline in neonatal mortality (Starfield 1985). Prenatal WIC participation associated with reductions in infant and neonatal mortality (Devaney 1992).	[Linked birth and death records file are available from states with a long time lag.]	Lower infant mortality

TABLE II.4

HEALTH OUTCOMES AND MEASURES: ACCESS TO HEALTH CARE FOR MOTHERS AND CHILDREN

Intermediate-Term Outcomes Expected	Long-Term Outcomes Expected	Measures Recommended	Data Source	Evidence of Sensitivity to Community Interventions	Strengths [Liabilities] of the Measure	Policy Relevance
	Increase in mothers and children covered by health insurance	Proportion covered by private or public health insurance	Survey	Lack of health insurance is associated with reduced access to medical care (Kleinman et al. 1981; Newacheck 1988; Freeman et al. 1990).	Well-established and simple question from the NHIS	Increases in preventive health care utilization
Increase in incidence of children who have a regular source of routine medical care	Continued increase in incidence of children who have a regular source of routine medical care	Proportion reporting regular source of care	Survey, school registration	Persons without insurance receive fewer health care services (Braveman et al. 1991). Evidence shows that community programs increase use of prenatal care and increase percentage receiving early prenatal care. (Korenbrot et al. 1993; Institute of Medicine 1988; Miller et al. 1989; Strobino et al. 1986; Peoples et al. 1984).	[Link between Medicaid coverage and health care may be limited by an inadequate supply of providers.]	Improved health status and reduced costs
Increase in number of eligible women and children participating in Medicaid	Increase in number of eligible women and children participating in Medicaid	Number of women and children participating in the Medicaid program	Medicaid program data	Medicaid coverage can reduce differential access to medical care between insured and uninsured groups (Franks et al. 1993; Kleinman et al. 1981; Newacheck 1988, 1989).		Increases in Medicaid enrollments; may be offset by improved health status and lower costs
Providers more willing to serve Medicaid patients	Providers willing to serve Medicaid beneficiaries	Willingness of providers to serve Medicaid patients	Survey	Increased provider participation in a statewide program focusing on access to care for pregnant women and infants (Azzara et al. 1988)		Improved access to care for low income individuals

BEST COPY AVAILABLE

TABLE II.5

HEALTH OUTCOMES AND MEASURES: UTILIZATION OF PREVENTIVE AND APPROPRIATE HEALTH CARE FOR CHILDREN

Intermediate-Term Outcomes Expected	Long-Term Outcomes Expected	Measures Recommended	Data Source	Evidence of Sensitivity to Community Interventions	Strengths [Liabilities] of the Measure	Policy Relevance
Increase in incidence of children who receive a regular well-child examination	Continued increase in incidence of children who receive a regular well-child examination	Proportion with routine health checkup in past 12 months	Survey, school registration records	Evidence that home visit programs improve maternal health and reduce risk of infant health problems (Olds and Kitzman, 1990). Evidence that well-child care detects emerging growth and developmental problems (Mitchell et al. 1980; Glascoe et al. 1990).	Short, reliable question from NHIS	Reduced costs of medical care for preventable conditions and those more readily treated by early intervention
Decrease in incidence of children using emergency room for nonemergency conditions	Decrease in incidence of children using emergency room for nonemergency conditions	Number of emergency room admissions for nonemergency conditions	Survey	The Municipal Health Services Program (MHSP) successfully replaced some outpatient and emergency room services with primary care services (Fleming and Andersen 1986).	Questions available from the NHIS	Reduced costs of emergency room care
	Increase in plans for appropriate infant feeding (whether breast or formula)	Proportion of mothers reporting appropriate feeding plans	Survey of new mothers	WIC participation associated with decreases in breastfeeding but better overall infant feeding practices (Nelson et al. 1992).	Questions available from the National Maternal and Infant Health Survey. Questions could be incorporated with a community contact program for new mothers.	Improved dietary status of infants
Increase in rates of completed immunizations	Continued increase in rates of completed immunizations	Proportion of children with complete immunizations at appropriate ages	Survey, school registration records	Public health funding and laws requiring immunization result in high immunization coverage (Hinman 1990).	Exploring survey measures of immunization	Reduction in preventable diseases in childhood
Increase in proportion of children who have regular vision and hearing screenings	Continued increase in proportion of children who have regular vision and hearing screenings	Proportion of children with vision and hearing screening in past 12 months	Survey, school registration records	A higher proportion of Head Start children than non-Head Start children received vision and speech screenings (McKey et al. 1985).		Early detection of problems and appropriate referrals
Increase in proportion of children who have a dental checkup	Continued increase in proportion of children who have a dental checkup	Proportion of children with dental visit in past 12 months	Survey, school registration records	A higher proportion of Head Start children than non-Head start children received a dental checkup (McKey et al. 1985).	Simple, short question available from the NHIS	Improved oral health status of children

BEST COPY AVAILABLE

TABLE II.5 *(continued)*

Intermediate-Term Outcomes Expected	Long-Term Outcomes Expected	Measures Recommended	Data Source	Evidence of Sensitivity to Community Interventions	Strengths [Liabilities] of the Measure	Policy Relevance
Decrease in hospitalizations for upper respiratory tract infections, otitis media, croup, toxic ingestions, bronchitis and asthma, fractures and sprains, pneumonia, and gastroenteritis	Continued decrease in hospitalizations for upper respiratory tract infections, otitis media, croup, toxic ingestions, bronchitis and asthma, fractures and sprains, pneumonia, and gastroenteritis	Number of hospitalizations for conditions listed	Survey	Increase in timely and effective ambulatory care leads to fewer hospitalizations (Billings et al. 1993). Increased access to primary care leads to reduced hospitalizations for asthma, gastroenteritis, and dehydration (Starfield 1985)	Questions on hospitalizations from the NHIS	Reduced health care costs
Decrease in number of children with preventable complications of diabetes mellitus, sickle cell anemia, seizure disorder	Continued decrease in number of children with preventable complications of diabetes mellitus, sickle cell anemia, seizure disorder	Number of hospitalizations for complications of conditions listed	Survey	Increased access to care leads to fewer hospitalizations for diabetes and seizure disorders (Starfield 1985).	Questions on hospitalizations from the NHIS	Reduced health care costs
Increased numbers of high-risk children using early intervention programs	Continued increase in numbers of high-risk children using early intervention programs	Number of high-risk children in early intervention programs	Program data	Infant Health and Development Program (1990)		Improved functional status of children with special needs
Early detection and treatment of vision and hearing problems	Continued early detection and treatment of vision and hearing problems	Number of entering kindergartners referred for treatment of vision and hearing problems	School registration records	Head Start children received more vision, speech, and hearing screenings than non-Head Start children (McKey et al. 1985). Preschool screening leads to early detection and treatment (Feldman et al. 1980).	Questions from NHIS can be used to determine screenings received.	Improved functional status of children with detected problems

BEST COPY AVAILABLE

TABLE II.6

HEALTH OUTCOMES AND MEASURES: INCIDENCE OF PREVENTABLE DISEASES AND DISABILITIES IN CHILDREN

Intermediate-Term Outcomes Expected	Long-Term Outcomes Expected	Measures Recommended	Data Source	Evidence of Sensitivity to Community Interventions	Strengths [Liabilities] of the Measure	Policy Relevance
	Decrease in postneonatal mortality rates or in race/ethnicity differential in postneonatal mortality rates	Postneonatal mortality rate for all children and by race/ethnicity	Birth certificate	Some evidence that postneonatal mortality is responsive to changes in the prevention of medical care (Starfield 1985)	[Linked birth and death records files are available from states with a long time lag.]	Reduced infant mortality
	Decrease in preventable infant mortality	Postneonatal mortality rate > 2/1000	Birth certificate	Some evidence that postneonatal mortality is responsive to changes in the prevention of medical care (Starfield 1985)	[Linked birth and death records files are available from states with a long time lag.]	Reduced infant mortality
Reduced number of cases of diseases for which immunization is available: pertussis, polio, measles, mumps, or rubella	Reduced number of cases of diseases for which immunization is available	Number of children with diseases listed	Public health records and/or survey	Immunization found to decrease the incidence of vaccine-preventable communicable diseases (Egbuonu and Starfield 1985)	[Incidence of vaccine-preventable communicable diseases is low and outcomes are thus not appropriate for statistical analysis.]	Reduced health care costs, improved physical health
	Increased use of safety precautions to reduce accidents and unintentional injury	Proportion of families using injury prevention: seat belts, ipecac syrup in house, working smoke alarms	Survey	An injury prevention program in a poor African American community resulted in increased proportion of homes with functioning smoke detectors, syrup of ipecac, safely stored medications, and reduced electrical and tripping hazards (Schwartz et al. 1993).		Reduced childhood morbidity and mortality

BEST COPY AVAILABLE

TABLE II.7

HEALTH OUTCOMES AND MEASURES: OVERALL HEALTH OF CHILDREN

Intermediate-Term Outcomes Expected	Long Term Outcomes Expected	Measures Recommended	Data Source	Evidence of Sensitivity to Community Interventions	Strengths [Liabilities] of the Measure	Policy Relevance
More positive parent perceptions of child's health status	Continued improvement in parent perceptions of child health status	NHIS question on mother's rating of child's health	Survey	Home visit programs improve maternal health and reduce risk of infant health problems (Olds and Kitzman 1990).	Scale widely used and useful in assessing current health status, changes in health status from treatment, and prediction of mortality	Improved overall health of children
Fewer children with functional limitations due to health conditions	Continued reduction in children with functional limitations due to health conditions	RAND Health Perceptions Scale	Survey	No effects detected of an early intervention program for low-birthweight, preterm infants (Infant Health and Development Program 1990).	Established scale with high internal consistency and good concurrent validity with other reported measures of health	Improved functional status of children
Fewer children with morbidities or serious morbidities	Fewer children with morbidities or serious morbidities	Morbidity Index, Serious Morbidity Index	Survey	Few effects detected of an early intervention program for low-birthweight, preterm infants (Infant Health and Development Program 1990).	Combination of individually rare events to give a more sensitive outcome measure	Improved physical health of children
	Increase in proportion of children who are within age-appropriate height and weight norms	Height and weight relative to age norms--percentiles and z-scores	School registration records	WIC participation by children reduced the percentage of children below the 10th percentile of height and weight for their age (Edozien et al. 1979).	Reliable and valid measures easily available from direct measurements or medical records review (Shankoff 1992).	Improved health of children

TABLE III.1

FAMILY FUNCTIONING OUTCOMES AND MEASURES

Intermediate-Term Outcomes Expected	Long-Term Outcomes Expected	Measures Recommended (Age Range)	Data Source	Evidence of Sensitivity to Community Interventions	Strengths [Liabilities] of the Measure	Policy Relevance
Intellectual Stimulation						
Increase in amount of time spent with child in intellectually challenging activities (reading, arts and crafts, trips to parks or museums)	Continued higher levels of time in intellectually challenging activities, educational materials, and regulation of television	National Household Education Survey (NHES) items on activities in and out of the home, materials in the home, and TV rules (ages 3-5 years) as adapted in part from the Home Observations for Measurement of the Environment (HOME)	Survey	5-year follow-up of Project Redirection showed significantly higher HOME scores for teen mothers who received comprehensive intervention.	Used in 1993 NHES National estimates are available for comparison	HOME scores are known to predict later cognitive and social-emotional outcomes and affect school readiness and school performance (Howrigan 1988; Bradley et al. 1989)
Increase in number of educational materials in the home	Continued increase in number of educational materials in the home		Survey	For the HOME subscale on learning stimulation, participants received slightly higher scores, but the difference was not significant (Polit and White 1988).		
Increase in regulation of children's television viewing	Continued increase in regulation of children's television viewing	HOME items from scale of intellectual stimulation for young children (ages 1-2 years)				
Emotional Supportiveness						
Increased warmth and responsivity of parents	Continued higher levels of warmth and responsivity	Warmth and Responsivity Scales from JOBS survey	Survey	5-year follow-up of Project Redirection (Polit and White 1988) found significantly higher HOME scores for related subscales.	Used in large-scale national study Previous use with low-income, disadvantaged populations	Strong emotional support is associated with greater school readiness
More emotionally supportive styles of parental discipline and control	Continued change in style of discipline	Discipline items from JOBS survey	Survey		[Not tested with children under 3]	
Reductions in levels of parental stress	Continued reduction in stress	Parenting stress items from JOBS survey	Survey		[Has not been used in telephone survey]	

TABLE III.1 *(continued)*

Intermediate-Term Outcomes Expected	Long-Term Outcomes Expected	Measures Recommended (Age Range)	Data Source	Evidence of Sensitivity to Community Interventions	Strengths [Liabilities] of the Measure	Policy Relevance
Child Maltreatment						
Possible increase in reports of child abuse and neglect	Decrease in reports of substantiated abuse and neglect	Substantiated reports of child abuse or neglect (ages 0-18 years)	Child Protective Services program database	Family preservation literature indicates interventions reduce incidence of child abuse (Olds et al. 1986b; Feldran 1991).	Can be compared with state and national reports [Under-reporting may be a problem]	Costs of family preservation and child protective services
Decrease in actual incidence of parent violence toward children	Further decreases in parental violence directed toward children	Conflict Tactics Scales (Straus 1990) (all ages)	Survey		[Possible legal and moral obligations for reporting] [Effectiveness of intensive family preservation services remains in doubt (Nelson 1990, Schuerman et al. 1993).]	
Depression						
Reduced proportion of parents showing high levels of depression	Further reductions in depression	CES-D (Depression Scale--12-item version) (all ages) Medical Outcomes Study (MOS) short form (all ages)	Survey	Reduced depression has been linked to improved health care and social support and reduced levels of daily stressors (Hall et al. 1991).	Excellent psychometric properties (CES-D) Effective with low-income and minority groups (CES-D) CES-D used in numerous national studies (NLSY, JOBS, New Chance)	Importance of parental mental health for productive social functioning

BEST COPY AVAILABLE

TABLE III.1 *(continued)*

Intermediate-Term Outcomes Expected	Long-Term Outcomes Expected	Measures Recommended (Age Range)	Data Source	Evidence of Sensitivity to Community Interventions	Strengths [Liabilities] of the Measure	Policy Relevance
Adult Conflict and Violence						
Reductions in frequency and severity of verbal and physical violence between mother and spouse/partner/ boyfriend	Continued reductions in frequency and severity of family violence	Conflict Tactics Scales—Reasoning, Verbal Conflict, and Physical Conflict Subscales (all ages)	Survey	No strong empirical evidence, but family conflict and violence may be reduced through alleviation of social isolation and depression and learning positive conflict resolution skills. Related to this are indications that interventions reduce the incidence of child abuse (Olds 1988).	Excellent psychometric properties Used in wide variety of research on family violence Uses same measure as recommended for the child maltreatment construct [Under-reporting may be a problem] [Refusal rates of 15% are reported in national anonymous telephone survey.]	Family violence is a major and growing problem with many personal, social, and economic consequences for parents and children
Possible increased levels of spouse/partner abuse reports in the intermediate term	Reductions in reports of spouse/partner abuse	Cases of spouse/partner abuse (all ages)	Police records		Can be monitored on a yearly basis and compared with national estimates and estimates for similar communities [Changes in levels of reported abuse may not reflect changes in actual incidence of abuse.] [Under-reporting may be a problem]	
Daily Stress						
Decrease in hassles of daily living	Reductions in daily stress and increases in adult well being	Subscales of Daily Hassles and Uplifts Scale (DeLongis et al. 1982): Subscales on hassles related to family and friends, financial hassles	Survey	Literature in the field of psychology shows a link between stress and parents' ability to nurture and discipline their children (Egeland et al. 1980; McLoyd and Wilson 1991). Further, hassles have been found to affect adult well-being (DeLongis et al. 1982).	Reliable Sensitive to changes in intensity over time Predict adult and child psychological well being [Has not been used in telephone surveys]	Decreased stress is associated with lower levels of child maltreatment

BEST COPY AVAILABLE

TABLE III.1 *(continued)*

Intermediate-Term Outcomes Expected	Long-Term Outcomes Expected	Measures Recommended (Age Range)	Data Source	Evidence of Sensitivity to Community Interventions	Strengths [Liabilities] of the Measure	Policy Relevance
			Family Isolation/Connectedness			
Increased parental involvement in supportive community level organizations (schools and preschools, child care centers, libraries, religious organizations, family centers, community centers)	Continued community involvement at a higher level	Maternal Social Support Index--MSSI (all ages)	Survey	Social supports are linked to higher levels of stimulation in the home (Pascoe et al. 1981), and to more secure attachment in infants (Crockenberg 1981).	Measure efficiently taps variety of important sources of social support, including family, friends, and neighbors, as context information. [Has not been used in telephone surveys]	Information important for planning and outreach
Increase in use of family, friends, books, teachers, religious advisers, support groups for support in child rearing	Continued use	NHES questions on sources of advice for child rearing	Survey		Items used in large scale national survey	
			Family Stability			
	Decrease in divorce rates	Divorce rates	Vital Statistics	None identified		Divorce is associated with variety of health, behavioral, and emotional problems in children (Hetherington and Clingempeel 1992).
Decrease in number of children in out-of-home placement	Continued decrease	Number of children per 100,000 in out-of-home placement	Child Welfare Agency Database	Family preservation programs have obtained uneven results in preventing eventual foster care placement among high-risk families (Nelson 1990; Schuerman et al. 1993).	Obtainable from program databases	Cost savings from decreased welfare expenditures. Cost of child protective services.

BEST COPY AVAILABLE

TABLE III.1 *(continued)*

Intermediate-Term Outcomes Expected	Long-Term Outcomes Expected	Measures Recommended (Age Range)	Data Source	Evidence of Sensitivity to Community Interventions	Strengths [Liabilities] of the Measure	Policy Relevance
Family Stability (continued)						
Increased labor force participation among employment ready mothers Decrease in number of work days missed for child related reasons	Improved maternal employment patterns, including:			Project Redirection showed marginally significant relationships between program involvement and rates of employment (Polit et al. 1988).	Employment and household income are important explanatory variables related to child well-being.	Cost savings from decreased welfare expenditures and increases in revenues
	Increased labor-force participation rates	Current Population Survey (CPS) items	Survey			
	Increase in number of weeks worked in the past year	CPS items	Survey			
	Increased earnings	CPS items	Survey			

BEST COPY AVAILABLE

TABLE IV.1

CHILD DEVELOPMENT OUTCOMES AND MEASURES

Intermediate-Term Outcomes Expected	Long-Term Outcomes Expected	Measures Recommended (Age Range)	Data Source	Evidence of Sensitivity to Community Interventions	Strengths [Liabilities] of the Measure	Policy Relevance
Participation by Children in Early Education and Care Programs Before Kindergarten						
Increase in enrollments in early education and care programs	Continued increase in enrollments in early education and care programs	Enrollment records (ages 1-5 years)	Head Start records, child care system records School registration	Direct link to outreach activities	Obtainable from program databases [Data may not represent community as a whole.] [Some communities may have data in a number of different databases.]	Availability and use of child care are associated with parents' ability to work and reduction in welfare dependence.
		National Household Education Survey (NHES) items on types of programs attended, length of attendance, etc. (ages 3-6 years)	Survey		Used in 1993 NHES	Participation in early childhood programs expected to improve school readiness.
Longer waiting lists for early childhood programs	Increased supply of early childhood programs; perhaps shorter waiting lists	Provider and service worker assessments of adequacy of supply (ages 1-5 years)	Program records			
Language Development						
Increased levels of receptive, expressive, and productive language	Continued increase in levels of receptive, expressive, and productive language	MacArthur Communicative Development Inventory--CDI--Short Form (ages 1-3 years)	Survey	Cognitive and language development are enhanced by such factors as involvement in quality child care and early education programs and increased levels of stimulation in the home (McCartney et al. 1982; Ramey et al. 1983).	Short form highly correlated with full CDI, which has strong construct validity--strong correlations between CDI vocabulary production scores and laboratory measures; mothers' reports of onset of grammatical functions closely parallel language development theory Age norms available [although may not be applicable to low-income samples] Used in NIH Infant Day Care Study [Norming sample did not have large numbers of minority group members.] [Limited to 8- to 36-month age range]	Language skills are central to school readiness and success in school. Relates to National Education Goal One: domain of language usage

BEST COPY AVAILABLE

TABLE IV.1 *(continued)*

Intermediate-Term Outcomes Expected	Long-Term Outcomes Expected	Measures Recommended (Age Range)	Data Source	Evidence of Sensitivity to Community Interventions	Strengths [Liabilities] of the Measure	Policy Relevance
School-Related Knowledge and Skills						
Increases in school-related knowledge and skills	Increases in school-related knowledge and skills	NHES items on knowledge of colors, letters, numbers, and writing (3-5)	Survey	School-related knowledge is enhanced by preschool program participation and improved family functioning (Barnett 1992).	Used in 1993 NHES	School readiness: relates to cognitive and general knowledge
		NHES items (5-6)	School registration			
		Early Screening Inventory (ESI) (4-6)	School registration		Good norms, strong reliability, has companion parent rating form	
Improved motor development and coordination	Improved motor development and coordination	NHES items on buttoning, holding a pencil, writing, and drawing; motor coordination (3-5)	Survey	Preschool programs can enhance school performance (Schweinhart et al. 1993).	Used in 1993 NHES	School readiness: relates to physical well being and motor development
		ESI (4-6)	School registration		Good norms and reliability	
Social Well-Being						
Increased levels of cooperation, assertion, and responsibility, and increased degree of self-control	Increased levels of cooperation, assertion, and responsibility, and increased degree of self-control	Social Skills Rating System--Parent Form (SSRS) (3-5)	Survey	Quality child care improves social development (Howes et al. 1992).	Standardized on national sample of 5,000 children, racially, ethnically, and socioeconomically mixed	Social skills are important for successful adjustment to kindergarten; relates to social and emotional development and domain of approaches toward learning
		SSRS--Teacher Form (5-6)	School registration		Emphasizes positive behaviors	
Behavior Problems						
Lowered levels of headstrong, antisocial, anxious, depressed, and overly dependent behavior	Lowered levels of headstrong, antisocial, anxious, depressed, and overly dependent behavior	Behavior Problems Index--BPI (2-5)	Survey	Parent ratings on BPI distinguish children who have and have not received psychological help (Zill 1990); children in families with low levels of conflict experience fewer behavior problems (Peterson and Zill 1986); children with preschool experience have fewer classroom behavior problems (Pierson et al. 1984).	Designed as parent report measure BPI is widely used (JOBS, NLSY-CS, NHIS) Strong psychometric properties	Behavior problems can interfere with school readiness and success Children with fewer behavior problems are less likely to require mental health services (Achenbach et al. 1991) Relates to social and emotional development

BEST COPY AVAILABLE

TABLE V.1

SCHOOL PERFORMANCE OUTCOMES AND MEASURES

Intermediate-Term Outcomes Expected	Long-Term Outcomes Expected	Measures Recommended	Data Source	Evidence of Sensitivity to Community Interventions	Strengths [Liabilities] of the Measure	Policy Relevance
			Remediation			
--	Decreased proportions of children identified as developmentally delayed at kindergarten entry	Scores on developmental screening tests	Kindergarten registration forms	Enrollment in preschool programs and increased levels of intellectual stimulation in the home shown to decrease developmental delays (Ramey et al. 1983)	Inexpensive to collect (if available) [Subject to possible inconsistencies in school registration procedures]	Developmental delays are major source of increased educational costs.
--	Reductions in number of children assigned to special education programs	Number and proportion of children with special education assignments	School system records	Enrollment in preschool programs and increased levels of intellectual stimulation in the home shown to decrease special education placements (Barnett 1992; Schweinhart et al. 1993)	Inexpensive to collect (if available) [Subject to inconsistencies in school records]	Special education services are very costly.
			Attendance			
Improved attendance	Improved attendance	Days absent/present	School records	Improvements in the home environment can improve school attendance (Maynard 1977).	Inexpensive to collect [Subject to inconsistencies in school records]	Poor attendance interferes with school completion.
			Grade Progression			
--	Reductions in rates of children retained in grade	Proportion of students over age for grade	School records	Quality preschool experience reduces rate of grade retentions (Lazar et al. 1982; Schweinhart et al. 1993).	Inexpensive to collect [Subject to variation in school retention policies]	Grade retentions result in increased education costs.
Decreased school dropout rates	Continued decrease in school dropout rates	School dropout rate	School records	Improvements in the home environment can increase probability of completing high school and increasing educational attainment (Mallar and Maynard 1981). However, rigorously evaluated school-based programs for teenagers have shown little effect.		Dropping out of high school can decrease future earnings potential.

BEST COPY AVAILABLE

TABLE V.1 *(continued)*

Intermediate-Term Outcomes Expected	Long-Term Outcomes Expected	Measures Recommended	Data Source	Evidence of Sensitivity to Community Interventions	Strengths [Liabilities] of the Measure	Policy Relevance
School Achievement						
Improved basic skills and academic achievement	Improved basic skills and academic achievement	Screening test scores	School system records	Cognitive and social performance improved by preschool attendance (see child development outcomes)	Inexpensive to collect (if available) [Subject to inconsistencies in school registration procedures]	Related to National Education Goals
--	--	Standardized achievement test scores	School system records	School achievement improved by attendance in quality preschool programs (Barnett 1992; Lazar et al. 1982), family background factors (Hanushek 1989), improvements in the home environment (Maynard 1977; Maynard and Murnane 1979; Millar and Maynard 1981), infant and preschool home environments (Bradley and Caldwell 1978, 1984)		

BEST COPY AVAILABLE

TABLE VI.1

YOUTH MATURATION AND SOCIAL INTEGRATION OUTCOMES AND MEASURES

Intermediate-Term Outcomes Expected	Long-Term Outcomes Expected	Measures Recommended	Data Source	Evidence of Sensitivity to Community Intervention	Strengths [Liabilities] of the Measure	Policy Relevance
Productivity						
Increase in proportion of youths productively engaged	Continued increase in proportion of youths productively engaged	Proportion of adolescents and young adults, ages 16-24, actively involved in school, training, a job, the military, or as homemakers	Survey	An analysis of longitudinal survey data showed that if a student attended a school where up-to-date local job listings were available, acquired information on how to find a job, and worked at a paid job while in school, he or she would have significantly higher earnings (Crawford et al. 1994).		An increase in active involvement by youths and young adults implies a decrease in public assistance expenditures
Antisocial or Violent Behavior						
Decrease in teenage arrests for violent crime	Continued decrease in teenage arrests for violent crime	Youth violent crime rate	State and/or local crime report data	None identified	[Data for other types of youth crime are not included since they are not always reliable.]	Higher youth violent crime rates may indicate deficiencies in child development and family functioning measures.
Decrease in teenage fatalities as a result of violent crimes	Continued decrease in teenage fatalities as a result of violent crimes	Teen homicide rate	Death certificate	None identified	Inexpensive to collect	Higher youth homicide rates may indicate deficiencies in child development and family functioning measures.
Decrease in teen suicides	Continued decrease in teen suicides	Teen suicide rate	Death certificate	None identified	Inexpensive to collect	

TABLE VI.1 *(continued)*

Intermediate-Term Outcomes Expected	Long-Term Outcomes Expected	Measures Recommended	Data Source	Evidence of Sensitivity to Community Intervention	Strengths [Liabilities] of the Measure	Policy Relevance
			Adolescent Well-Being			
Decrease in births to teenagers	Continued decrease in births to teenagers	Teen birth rates	Birth certificate	Few programs have shown promise in reducing pregnancy rates. However, a school-based program offering sex and family life education and counseling found no increase in sexual activity and reduced pregnancy rates among students attending program schools (Zabin et al. 1986).	Inexpensive to collect [Does not track births to teens age 18 and over]	Teen mothers are at risk for an array of social and economic problems. Reduced teenage birth rates may lead to lower welfare costs.
Decrease in cases of sexually transmitted disease	Continued decrease in cases of sexually transmitted disease	Incidence of sexually transmitted disease among teenagers	Local and/or state health departments; survey questions developed from Behavior Risk Factor Survey	No programs have convincingly affected a set of outcomes related to sexual risk behavior. However, there is limited evidence that sex education can delay the onset of intercourse (Howard and Mitchell, 1990; Barth 1989) and can decrease the number of sexual partners and increase the consistent use of condoms (Ku et al. 1992; Walter and Vaughn 1993). One intervention also showed a favorable association with the incidence of STDs (Walter and Vaughn 1993).	[Variation of data quality across communities; possible under-reporting]	Sexually transmitted diseases, particularly AIDS, represent health risks to individuals and to the entire community.

TABLE VI.1 *(continued)*

Intermediate-Term Outcomes Expected	Long-Term Outcomes Expected	Measures Recommended	Data Source	Evidence of Sensitivity to Community Intervention	Strengths [Liabilities] of the Measure	Policy Relevance
Decrease in the proportion of teenagers using or abusing drugs and/or alcohol	Continued decrease in the proportion of teenagers using or abusing drugs and/or alcohol	Incidence of drug and alcohol use among teenagers	Survey questions developed from Youth Risk Behavior Survey	A program targeted at inner-city sixth graders reduced the frequency of alcohol, tobacco, and marijuana use (Pentz et al. 1989).		Use and abuse of alcohol and drugs can be associated with delinquency and higher rates of youth crime
Decrease in the number of teenage accidental deaths	Continued decrease in the number of teenage accidental deaths	Teen accidental death rate	Death certificate	None identified	Inexpensive to collect	Can relate to spread of consumer safety information

TABLE VII.1

A COMMUNITY'S SOCIOECONOMIC ENVIRONMENT MEASURING DEMOGRAPHIC TRENDS AT LOCAL LEVELS

Characteristics	National Estimate (Year)	Level of Published Data Available	Source
Population			
Number of Persons	255 million (1992)	C,N[a]	*Census of Population & Housing*
Number of Family Households	65 million (1990)	C,N	*Census of Population & Housing*
Persons Who Have Moved (Percentage)[b]	46.7% (1990)	C,N	*Census of Population & Housing*
Age (Percentage of Total Population)			
Children under age 5	7.4% (1990)	C,N	*Census of Population & Housing*
Children under age 18	25.6% (1990)	C,N	*Census of Population & Housing*
Persons age 65 and over	12.6% (1990)	C,N	*Census of Population & Housing*
Race/Ethnicity (Percentage)			
Whites	80.3% (1990)	C,N	*Census of Population & Housing*
Blacks	12.1% (1990)	C,N	*Census of Population & Housing*
Asian and Pacific Islander	2.9% (1990)	C,N	*Census of Population & Housing*
Hispanics[c]	9.0% (1990)	C,N	*Census of Population & Housing*
Gender			
Males as a percentage of females	95.1% (1990)	C,N	*Census of Population & Housing*
Language (Percentage)			
Households speaking a language at home other than English	13.8% (1990)	C,N	*Census of Population & Housing*
Income			
Per Capita Income	$ 14,420 (1989)	C,N	*Census of Population & Housing*
Median Family Income	$ 35,225 (1989)	C,N	*Census of Population & Housing*
Percentage with Income Below the Poverty Level	13.1% (1989)	C,N	*Census of Population & Housing*
Education (Percentage)			
High School Graduate or Higher	75.2% (1990)	C,N	*Census of Population & Housing*
Bachelor's Degree or Higher	20.3% (1990)	C,N	*Census of Population & Housing*
Crime			
Serious Crimes Reported per 100,000 Persons	5928 (1991)	C	*County and City Data Book*[d]
Employment			
Unemployment Rate[e]	6.7% (1991)	C,N	*Census of Population & Housing*
Manufacturing Jobs (Percentage of Labor Force)	17.7% (1990)	C,N	*Census of Population & Housing*
Labor Force (Percent Change from 1980)	18.0% (1990)	C,N	*Census of Population & Housing*

TABLE VIII (continued)

Characteristics	National Estimate (Year)	Level of Published Data Available	Source
Infrastructure			
Local Government Direct General Expenses[f]	$392 billion (1986-87)	C	*County and City Data Book*[g]
Housing			
Number of units	$102 million (1990)	C,N	*Census of Population & Housing*
Owner-occupied units (percentage of total occupied units)	64.2% (1990)	C,N	*Census of Population & Housing*
Hospital Beds per 100,000 Persons	366 (1991)	C	*County and City Data Book*[h]
Active Physicians per 100,000 Persons	214 (1990)	C	*County and City Data Book*[i]

NOTE: The sources provide nationally compiled data that are readily available and easily accessible for a community. Each state, however, compiles its own data and may provide more detailed types of information at the zip code or neighborhood level. Variables from the *Census of Population and Housing* are accessible in CD-ROM format and can also be found in the *County and City Data Book*. Most of the variables are compiled and updated approximately every five years.

[a]A 'C' signifies that the data are available at the county, city, and metropolitan area level, and an 'N' signifies that the data are available at the neighborhood level and the zip code level. The neighborhood level, unless otherwise noted, refers to a census tract or a group of census tracts that have been aggregated to form a subcity area.

[b]Measured in 1990, these persons were living in a different home in 1990 than in 1985.

[c]Persons of Hispanic origin may be of any race.

[d]The *County and City Data Book* compiles unpublished data from the U.S. Federal Bureau of Investigation's Uniform Crime Reporting Program.

[e]Civilian unemployed are reported as a percentage of total civilian labor force.

[f]More detailed data on local government finances are available in the *Census of Governments*, generally published in years ending in 2 and 7.

[g]The *County and City Data Book* compiles data from the *Census of Governments, Government Finances, Compendium of Government Finances*, conducted every fifth year (for years ending in 2 or 7).

[h]These data were originally published by the American Hospital Association (AHA). More recent figures, available on an annual basis, can be calculated from published AHA data. See the *American Hospital Association's Hospital Statistics*.

[i]These data were originally published by the American Medical Association (AMA). More recent figures, available on an annual basis, can be calculated from published AMA data. See the AMA's *Physician Characteristics and Distribution in the United States*.

REFERENCES

Azzara, C.V., M. Kotelchuck, M.T. Anderka, K.S. Clark, and D. Robanske. "A Preliminary Healthy Start Evaluation: Interim Report for the Massachusetts Legislature." Boston: Division of Family Health Services, Department of Public Health, March 1988.

American Hospital Association. *The AHA Guide to the Health Care Field, 1994*, Chicago, IL, 1994.

American Medical Association. *Physician Characteristics and Distribution in the United States, 1994*, Chicago, IL, 1994.

Barnett, W. Steven. "Benefits of Compensatory Preschool Education." *Journal of Human Resources*, vol. 27, no. 2, 1992, pp. 279-312.

Barth, R. *Reducing the Risk: Building Skills to Prevent Pregnancy*, Santa Cruz, CA., ETR Publications, 1989.

Billings, John, Lisa Zeitel, Joanne Lukomnik, Timothy S. Carey, Arthur E. Blank, and Laurie Newman. "Impact of Socioeconomic Status on Hospital Use in New York City." *Health Affairs*, spring 1993, pp. 163-173.

Bradley, R.H., B.M. Caldwell, S.L. Rock, C.T. Ramey, K.E. Barnard, C. Gray, M.A. Hammond, S. Mitchell, A.W. Gottfried, L. Siegel, and D.L. Johnson. "Home Environment and Cognitive Development in the First 3 Years of Life: A Collaborative Study Involving Six Sites and Three Ethnic Groups in North America." *Developmental Psychology*, vol. 25, 1989, pp. 217-235.

Bradley, R., and B. Caldwell. "The Relation of Infants' Home Environments to Achievement Test Performance in First Grade: A Follow-Up Study." *Child Development*, vol. 55, 1984, pp. 803-809.

Bradley, R., and B. Caldwell. *Home Observation for Measurement of the Environment: Validation Studies of the Preschool Version.* Paper presented at the Annual Meeting of the Mid-South Educational Research Association, New Orleans, 1978.

Braveman, P., S. Egerter, T. Bennett, and J. Showstack. "Differences in Hospital Resource Allocation Among Sick Newborns According to Insurance Coverage." *Journal of the American Medical Association*, vol. 266, 1991, pp. 3300-3308.

Brick, J. Michael, Mary A. Collins, Mary Jo Nolin, Peter C. Ha, and Mary Levinsohn. *National Household Education Survey of 1993: School Readiness Data File User's Manual.* Washington, DC: National Center for Education Statistics, July 1994.

Centers for Disease Control. "Pregnancy Risks Determined from Birth Certificate Data--United States, 1989." *Journal of the American Medical Association*, vol. 268, no. 14, October 1992, pp. 1831-1832.

Child Trends, Inc., Manpower Research Demonstration Corporation. *Job Opportunities and Basic Skills Training Surveys (JOBS)*, Washington, DC and New York, NY, 1992 and 1993.

Crawford, D., A. Johnson, and A. Summers. "Schools and Labor Market Outcomes." Draft. University of Pennsylvania, Dept. of Economics and Management, Dept. of Education, 1994.

Crockenberg, S. "Infant irritability, Mother Responsiveness and Social Influences on the Security of Infant-Mother Attachment." *Child Development*, vol. 52, 1981, pp. 857-865.

DeLongis, A., J.C. Coyne, G. Dakoff, S. Folkman, and R.S. Lazarus. "Relationship of Daily Hassles, Uplifts, and Major Life Events to Health Status." *Health Psychology*, vol. 1, 1982, pp. 119-136.

Devaney, Barbara. "Very Low Birthweight Among Medicaid Newborns in Five States: The Effects of Prenatal WIC Participation." Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service, Office of Analysis and Evaluation, 1992.

Devaney, Barbara, Linda Bilheimer, and Jennifer Schore. "The Savings in Medicaid Costs for Newborns and Their Mothers from Prenatal Participation in the WIC Program: Volume 1." Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service, Office of Analysis and Evaluation, October 1990.

Egbuonu, Lisa, and B. Starfield. "Inadequate Immunization and the Prevention of Communicable Diseases." In *The Effectiveness of Medical Care: Validating Clinical Wisdom*, edited by Barbara Starfield. Baltimore: Johns Hopkins University Press, 1985.

Egeland, B., M. Breitbucher, and D. Rosenberg. "Prospective Study of the Significance of Life Stress in the Etiology of Child Abuse." *Journal of Consulting and Clinical Psychology*, vol. 48, 1980, pp. 195-205.

Edozien, J., B. Switzer, and R. Bryan. "Medicaid Evaluation of the Special Supplemental Food Program for Women, Infants, and Children." *The American Journal of Clinical Nutrition*, vol. 32, March 1979.

Families at Work Institute. National Forum on State and Community Planning in Early Education and Care: Community Planning Initiatives. New York, NY: Families and Work Institute (September) 1993.

Feldman, Leonard H. "Assessing the Effectiveness of Family Preservation Services in New Jersey within an Ecological Context." Trenton, NJ: New Jersey Department of Human Services, Division of Youth and Family Services, 1991.

Feldman, W., R.A. Milner, B. Sackett, and S. Gilbert. "Effects of Preschool Screening for Vision and Hearing on Prevalence of Vision and Hearing Problems 6-12 Months Later." *Lancet*, vol. 2, November 1980, pp. 1014-1016.

Fingerhut, Lois, and Joel Kleinman. "Comparability of Reporting Between the Birth Certificate and the 1980 National Natality Survey." *Vital and Health Statistics*, series 2, no. 99, U.S. Department of Health and Human Services, National Center for Health Statistics. November 1985.

Fleming, G. V. and R.M. Andersen. "The Municipal Health Services Program: Improving Access to Primary Care Without Increasing Expenditures," *Medical Care*, July 1986, vol. 24, no. 7, pp. 565-579.

Freeman, H.E., L.H. Aiken, R.J. Blendon, and C.R. Corey. "Uninsured Working-Age Adults: Characteristics and Consequences." *Health Service Research*, vol. 24, 1990, pp. 811-823.

Furstenberg, F.F., K.E. Sherwood, and M.L. Sullivan. "Parents' Fair Share Demonstration Caring and Paying: What Fathers and Mothers Say About Child Support." New York: Manpower Demonstration Research Corporation, 1992.

Gardiner, W. Lambert. *Psychology: A Story of a Search*. Belmont, CA: Brooks/Cole Publishing Company, 1970.

Glascoe, F., E. Martin, and S. Humphrey. "A Comparative Review of Developmental Screening Tests." *Pediatrics*, vol. 96, 1990, pp. 547-554.

Hall, L.A., D.N. Gurley, B. Sachs, and R.J. Kryscio. "Psychosocial Predictors of Maternal Depressive Symptoms, Parenting Attitudes, and Child Behavior in Single-Parent Families." *Nursing Research*, vol. 40, 1991, pp. 214-220.

Hanushek, Eric A. "The Impact of Differential Expenditures on School Performance." *Educational Researcher*, vol. 18, no. 4, May 1989, pp. 45-51, 62.

Herron, M.A., M. Katz, and R.K. Creasy. "Evaluation of a Preterm Birth Prevention Program. Preliminary Report. *Obstetrical Gynecology*, vol. 59, 1982, pp. 452-456.

Hinman, Alan R. "Immunizations in the United States." *Pediatrics*, vol. 86, no. 6, December 1990, pp. 1064-1066.

Hollister, Robinson G. and Jennifer Hill. "Problems in the Evaluation of Community-Wide Initiatives (Rough Draft)." Paper prepared for the Roundtable on Comprehensive Community Initiatives, Swarthmore, PA: Swarthmore College, August 1994.

Howard, M. and M. Mitchell. *Postponing Sexual Involvement: An Educational Series for Young Teens*, Atlanta, GA: Emory University/Grady Memorial Hospital, 1990.

Howes, Carollee, Deborah A. Phillips, and Marcy Whitebook. "Thresholds of Quality: Implications for the Social Development of Children in Center-Based Child Care." *Child Development*, vol. 63, 1992, pp. 449-460.

Howrigan, G.A. "Evaluating Parent-Child Interaction Outcomes of Family Support and Education Programs." In *Evaluating Family Programs*, edited by H.B. Weiss and F.H. Jacobs. New York: Aldine de Gruyter 1988.

Infant Health and Development Program. "Enhancing the Outcomes of Low-Birth-Weight, Premature Infants: A Multisite, Randomized Trial." *Journal of the American Medical Association*, vol. 263, no. 2, June 13, 1990, pp. 3035-3042.

Institute of Medicine. *Prenatal Care: Reaching Mothers, Reaching Infants*. Washington, DC: National Academy Press, 1988.

Institute of Medicine. *Preventing Low Birthweight*. Washington, DC: National Academy Press, 1985.

Kessner, D.M., J. Singer, C.W. Calk, et al. "Infant Death: An Analysis by Maternal Risk and Health Care." In *Contrasts in Health Status*, vol. I. Washington, DC: Institute of Medicine, National Academy of Sciences, 1973.

Kleinman, J.C., M. Gold, and D. Makuc. "Use of Ambulatory Medical Care by the Poor: Another Look at Equity. *Medical Care*, vol. 19, 1981, pp. 1011-1029.

Kligman, E.W., and S. Narce-Valente. "Reducing the Exposure of Children to Environmental Tobacco Smoke. An Office-Based Intervention Program." *Journal of Family Practice*, vol. 30, no. 3, March 1990, pp. 263-269.

Korenbrot, Carol, Zoe Clayson, Ayesha Gill, and Elizabeth Patterson. "Evaluation of the Implementation of the Comprehensive Perinatal Service Program." San Francisco: Institute for Health Policy Studies, University of California, January 1993.

Kotelchuck, Milton. "An Evaluation of the Kessner Adequacy of Prenatal Care Index and a Proposed Adequacy of Prenatal Care Utilization Index." *American Journal of Public Health*, vol. 84, no. 9 (September) 1994, pp. 1414-1420.

Ku, L., F. Sonenstein, and J. Pleck. "The Association of AIDS Education and Sex Education with Sexual Behavior and Condom Use Among Teenage Men." *Family Planning Perspectives*, vol. 24, no. 3, May/June 1992, pp. 100-106.

Lazar, Irving, R.B. Darlington, H. Murray, J. Royce, and A. Snipper. "Lasting Effects of Early Education: A Report from the Consortium for Longitudinal Studies." *Monographs of the Society for Research in Child Development*, vol. 47, nos. 2-3, serial no. 195. Chicago: University of Chicago Press, 1982.

Main, Denise M., Steven G. Gabbe, Douglas Richardson, and Sharon Strong. "Can Preterm Deliveries be Prevented?" *American Journal of Obstetrics and Gynecology*, vol. 151, no. 7, April 1, 1985, pp. 892-898.

Mallar, Charles D., and Rebecca A. Maynard. "The Effects of Income Maintenance on School Performance and Educational Attainment." In *Research in Human Capital and Development: A Research Annual*, vol. 2, edited by Ali Khan and Ismail Sirageldin. Greenwich, CT: JAI Press Inc, 1981.

Maynard, Rebecca. "Some Aspects of Income Distribution: The Effects of the Rural Income Maintenance Experiment on the School Performance of Children." *American Economic Review*, vol. 67, no. 1, February 1977, pp. 370-374.

Maynard, Rebecca, and Anu Rangarajan. "Prevalence and Causes of Repeat Pregnancies Among Welfare-Dependent Teenage Pregnancies." *Family Planning Perspectives*, Nov./Dec. 1994 (forthcoming).

Maynard, Rebecca, and Richard Murnane. "The Effects of a Negative Income Tax on School Performance: Results of an Experiment." *The Journal of Human Resources*, vol. 14, no. 4, 1979, pp. 463-476.

McCartney, Kathleen, Sandra Scarr, Deborah Phillips, Susan Grajek, and J. Conrad Schwarz. "Environmental Differences Among Day Care Centers and Their Effects on Children's Development." In *Day Care: Scientific and Social Policy Issues*, edited by Edward F. Zigler and Edmund W. Gordon. Boston: Auburn Press, 1982.

McCormick, M., S. Shapiro, and B. Starfield. "The Regionalization of Perinatal Services: Summary of the Evaluation of a National Demonstration Program." *Journal of the American Medical Association*, vol. 253, 1985, pp. 799-804.

McKey, Ruth Hubbell, Larry Condelli, Harriet Ganson, Barbara J. Barrett, Catherine McConkey, Margaret C. Plantz, and Allan N. Smith. "Final Report. The Impact of Head Start on Children, Families, and Communities: Head Start Synthesis Project." U.S. Government Printing Office, Washington, DC: June 1985.

McLaughlin, F.J., W.A. Altemeier, M.J. Christensen, K.B. Shrrod, M.S. Dietrich, and D.T. Stern. "Randomized Trial of Comprehensive Prenatal Care for Low-Income Women: Effect on Infant Birth Weight." *Pediatrics*, vol. 89, no. 1, January 1992, pp. 128-132.

McLoyd, V.C., and L. Wilson. "The Strain of Living Poor." In *Children in Poverty: Child Development and Public Policy*, edited by A. Huston. New York: Cambridge University Press, 1991.

Miller, Christy, Lewis Margolis, Bettina Schwethelm, and Sheila Smith. "Barriers to Implementation of a Prenatal Care Program for Low Income Women." *American Journal of Public Health*, vol. 79, no. 1, January 1989, pp. 62-64.

Mitchell W., R. Gorell, and R. Greenberg. "Failure-to-Thrive: A Study in a Primary Care Setting. Epidemiology and Follow-up." *Pediatrics*, vol. 65, 1980, pp. 971-977.

Nelson, Kristine. "How Do We Know That Family-Based Services Are Effective." *The Prevention Report*. Fall 1990.

Nelson, Lyle, Barbara Devaney, and Anne Gordon. "Characteristics of WIC Participants and Effects of WIC Participation: Analysis of the 1988 National Maternal and Infant Health Survey." Draft report submitted to the U.S. Department of Agriculture, Food and Nutrition Service. Princeton, NJ: Mathematica Policy Research, Inc., March 25, 1992.

Newacheck, P.W. "Access to Ambulatory Care for Poor Persons." *Health Services Research*, vol. 23, 1988, pp. 401-419.

Newacheck, P.W. "Improving Access to Health Services for Adolescents from Economically Disadvantaged Families." *Pediatrics*, vol. 84, 1989, pp. 1056-1063.

O'Sullivan, Anne L., and Barbara S. Jacobsen. "A Randomized Trial of a Health Care Program for First-Time Adolescent Mothers and Their Infants." *Nursing Research*, vol. 41, no. 4, July/August 1992, pp. 210-215.

Olds, D. "Common Design and Methodological Problems Encountered in Evaluating Family Support Services: Illustrations from the Prenatal/Early Infancy Project." In *Evaluating Family Programs*, edited by B. Weiss and F.H. Jacobs. New York: Aldine de Gruyter, 1988.

Olds, D.L., C.R. Henderson, R. Tatelbaum, and R. Chamberlin. "Improving the Delivery of Prenatal Care and Outcome of Pregnancy: A Randomized Trial of Nurse Home Visitation." *Pediatrics*, vol. 77, 1986a, pp. 16-28.

Olds, D., C. Henderson, R. Chamberlin, and R. Tatelbaum. "Prevention of Child Abuse and Neglect: A Randomized Trial of Nurse Home Visitation." *Pediatrics*, vol. 78, 1986b, pp. 65-78.

Olds, David L., Charles R. Henderson, Jr., Robert Tatelbaum, and Robert Chamberlin. "Improving the Life-Course Development of Socially Disadvantaged Mother: A Randomized Trial of Nurse Home Visitation." *American Journal of Public Health*, vol. 78, 1988, pp. 1436-1445.

Pascoe, J.M., F.A. Loda, V. Jeffries, and J. Earp. "The Association Between Mothers' Social Support and Provision of Stimulation to Their Children." *Developmental and Behavioral Pediatrics*, vol. 2, 1981, pp. 15-19.

Pentz, M., J. Dwyer, D. MacKinnon, B. Flay, W.B. Hansen, Eric Yu I. Wang, C. Anderson Johnson. "A Multi-Community Trial for Primary Prevention of Adolescent Drug Abuse," *Journal of the American Medical Association*, June 9, 1989, vol. 261, no. 22, pp. 3259-3266.

Peoples, Mary, and Earl Siegel. "Measuring the Impact of Programs for Mothers and Infants on Prenatal Care and Low Birth Weight: The Value of Refined Analyses." *Medical Care*, vol. 21, no. 6, June 1983, pp. 586-608.

Peoples, Mary, Roger Grimson, and Gordon Daughtry. "Evaluation of the Effects of the North Carolina Improved Pregnancy Outcome Project: Implications for State-Level Decision-Making." *American Journal of Public Health*, vol. 74, no. 6, June 1984, pp. 549-554.

Peterson, J.L., and N. Zill. "Marital Disruption, Parent-Child Relationships, and Behavioral Problems in Children." *Journal of Marriage and the Family*, vol. 48, 1986, pp. 295-307.

Pierson, D.E., D.K. Walker, and T. Tivnan. "A School-Based Program from Infancy to Kindergarten for Children and Their Parents." *Personnel and Guidance Journal*, vol. 62, no. 8, 1984, pp. 448-455.

Polit, D.F., J.C. Quint, and J.A. Riccio. "The Challenge of Serving Teenage Mothers: Lessons from Project Redirection." New York: Manpower Demonstration Research Corporation, 1988.

Polit, D.F., and White. "The Lives of Young Disadvantaged Mothers: The Five Year Follow-Up of the Project Redirection Sample." Saratoga Springs, NY: Humanalysis, Inc. May 1988.

Ramey, Craig T., Donna M. Bryant, and Tanya M. Suarez. "Preschool Compensatory Education and the Modifiability of Intelligence: A Critical Review." In *Current Topics in Human Intelligence*, edited by D. Detterman. Norwood, NJ: Ablex Publishing Corporation, 1983.

Schoendorf, K.C., J.D. Parker, L.Z. Batkhan, and J.L. Kiely. "Comparability of the Birth Certificate and 1988 Maternal and Infant Health Survey." *Vital and Health Statistics*, series 2, no. 116. U.S. Department of Health and Human Service, Centers for Disease Control and Prevention/National Center for Health Statistics, March 1993.

Schorling, J. "The Prevention of Prenatal Alcohol Use: A Critical Analysis of Intervention Studies." *Journal of Studies on Alcohol*, May 1993, vol. 54, no. 3, pp. 261-267.

Schorr, Lisbeth B. *Within Our Reach: Breaking the Cycle of Disadvantage*. New York: Anchor Books, 1988.

Schorr, Lisbeth B. *The Case for Shifting to Results-Based Accountability; with A Start-Up List of Outcome Measures with Annotations*. Cambridge, MA: Harvard Project on Effective Services. May 23, 1994.

Schuerman, John R., Tina L. Rzepnicki, Julie H. Kittel, and Amy Chak. "Evaluation of the Illinois Family First Placement Prevention Program: Final Report." Chicago, IL: Chapin Hall Center for Children, The University of Chicago, June 1993.3

Schwartz, Donald F., Jeanne Ann Grisso, Carolyn Miles, John H. Holmes, and Rudolph L. Sutton. "An Injury Prevention Program in an Urban African-American Community." *American Journal of Public Health*, May 1993, vol. 83, no. 5, pp. 675-680.

Schweinhart, L.J., H.V. Barnes, and D.P. Weikart. *Significant Benefits: The High/Scope Perry Preschool Study Through Age 27*. Ypsilanti, MI: High/Scope Press, 1993.

Shaffer, David, Ann Garland, Madelyn Gould, Prudence Fisher, and Paul Trautman. "Preventing Teenage Suicide: A Critical Review." *Journal of the American Academy of Child and Adolescent Psychiatry*, Nov. 1988, 27 (6), pp. 675-87.

Shonkoff, Jack P. "The Conceptualization and Measurement of Child and Family Health." Paper prepared for the National Center for Education Statistics. Worcester, MA: University of Massachusetts medical School, November 1992.

Starfield, Barbara. "The Effectiveness of Medical Care: Validating Clinical Wisdom." Baltimore: Johns Hopkins University Press, 1985, pp. 48-57.

Stewart, A.L., R.D. Hays, and J.E. Ware. "The MOS Short-Form General Health Survey: Reliability and Validity in a Patient Population." *Medical Care*, vol. 26, 1988, pp. 724-735.

Straus, Murray A. *Measuring Physical and Psychological Maltreatment of Children with the Conflict Tactics Scales*. Family Research Laboratory. Durham, NH: University of New Hampshire, 1990.

Strobino, Donna, Gary Chase, Young Kim, Barbara Crawley, Joan Salim, and Gigiola Baruffi. "The Impact of the Mississippi Improved Child Health Project on Prenatal Care and Low Birthweight." *American Journal of Public Health*, vol. 76, no. 3, March 1986, pp. 274-278.

Sultz, H., J. Bauer, and R. Fiedler. "Targeting Teenage Pregnancy: The Effect of a State Media Campaign to Promote Birth Control." U.S. Department of Health and Human Services, National Center for Health Statistics. *Proceedings of the 1989 Public Health Conference on Records and Statistics*, July 1989, pp. 517-522.

U.S. Bureau of the Census. *Census of Governments, Government Finances, Compendium of Government Finances, 1987*, U.S. Government Printing Office, Washington, DC.

U.S. Bureau of the Census. *Census of Population and Housing*, 1990.

U.S. Bureau of the Census. *County and City Data Book 1994*, 12th edition, U.S. Government Printing Office, Washington, DC, 1994.

U.S. Bureau of the Census. *Current Population Survey (CPS)*, Washington, DC: U.S. Government Printing Office, Annual.

U.S. Bureau of the Census. *Statistical Abstract of the United States, 1994: The National Data Book*, U.S. Government Printing Office, Washington, DC, 1994.

U.S. Department of Health and Human Services. *National Health Interview Survey, Supplement Booklet*. Washington, DC: U.S. Government Printing Office, 1988.

U.S. Department of Health and Human Services, National Center for Health Statistics. *National Maternal and Infant Health Survey (NMIHS)*, Washington, DC: U.S. Government Printing Office, 1990.

U.S. Department of Health and Human Services, Centers for Disease Control. *Youth Risk Behavior Surveillance System*, Annual.

Walter, H. and R. Vaughn. "AIDS Risk Reduction Among a Multiethnic Sample of Urban High School Students." *Journal of the American Medical Association*, vol. 270, no. 6, August 11, 1993, pp. 725-730.

Windsor, Richard A., John B. Lowe, Laura L. Perkins, Dianne Smith-Yoder, Lynn Artz, Myra Crawford, Kim Amburgy, and Neal Richard Boyd, Jr. "Health Education for Pregnancy Smokers: Its Behavioral Impact and Cost Benefit." *American Journal of Public Health*, vol 83, 1993, pp. 201-206.

Windsor, Richard A., Chang Qing Li, John B. Lowe, Laura L. Perkins, Dan Ershoff, and Tom Glynn. "The Dissemination of Smoking Cessation Methods for Pregnant Women: Achieving the Year 2000 Objectives." *American Journal of Public Health*, vol. 93, 1993, pp. 173-178.

Zabin, L.S., M.B. Hirsch, E.A. Smith, R. Streett, and J.B. Hardy. "Evaluation of a Pregnancy Prevention Program for Urban Teenagers." *Family Planning Perspectives*, May-Jun, 1986, vol. 18, no. 3, pp. 119-126.

Zill, N. *Behavior Problems Index*. Washington, DC: Child Trends, 1990.